

\$1 PLUS TAX

# CATALOG





# GENERAL CATALOG

and

## ANNOUNCEMENT OF COURSES

1970-71



## CALIFORNIA STATE COLLEGE, FULLERTON

800 North State College Boulevard, Fullerton, California  
(714) 870-2011 92631

All material herein is subject to change without prior notice

*Effective Date: September 14, 1970*

**COMPLIMENTARY COPY**

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# ANNUAL CALENDAR

## 1970

JANUARY							JULY						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
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APRIL							OCTOBER						
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## 1971

JANUARY							JULY						
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MARCH							SEPTEMBER						
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APRIL							OCTOBER						
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**SUMMER SESSION 1970—First Session**

April 13, Monday—

June 1, Monday..... Inclusive dates for early registration for summer session

June 15, Monday..... First summer session begins—registration and classes

July 4, Saturday..... Independence Day holiday—college closed

July 24, Friday..... First summer session ends

**SUMMER SESSION 1970—Second Session**

July 27, Monday..... Second summer session begins—registration and classes

September 4, Friday..... Second summer session ends; effective date of graduation for those completing baccalaureate requirements

September 7, Monday..... Labor Day holiday—all offices closed

September 9, Wednesday..... Admission Day—all offices open

**FALL SEMESTER 1970****January 2, 1970**

Period for filing applications for admission to the fall semester 1970 begins for all new students and former students not in attendance during the spring semester 1970. Applicants are urged to file early in the period in view of enrollment limitations. Applications will be closed when enrollment quotas are filled, or July 1, whichever is earlier.

September 14, Monday..... Academic year begins; advisement, orientation and registration week begins (see *Class Schedule* for details)

September 17, Thursday..... Last day to register without late registration fee; application deadline for baccalaureate degree candidates for graduation, June 1971 and September 1971

September 21, Monday..... Instruction begins

October 12, Monday..... Columbus Day holiday—all offices closed; no instruction

November 2, Monday..... Deadline for January 1971 master's degree candidates to request a graduation check

November 11, Wednesday..... Veterans Day holiday—all offices closed; no instruction

November 26-27,

Thursday, Friday..... Thanksgiving recess—all offices closed

December 21, Monday..... Winter recess begins

January 4, Monday..... Instruction resumes

January 13, Wednesday..... Last day of classes

January 14-15,

Thursday-Friday..... Examination study days

January 18, Monday..... Semester examinations begin

January 22, Friday..... Semester examinations end; semester ends; effective date of graduation for those completing requirements



**October 1, 1970**

Period for filing applications for admission to the spring semester 1971 begins for all new students and former students not in attendance during the fall semester 1970. Applicants are urged to file early in the period in view of enrollment limitations. Applications will be closed when enrollment quotas are filled, or December 1, whichever is earlier. (Dates are subject to change.)

February 1, Monday	Semester begins; advisement, orientation and registration week begins
February 4, Thursday	Last day to register without late registration fee; application deadline for baccalaureate degree candidates for graduation January 1972
February 8, Monday	Instruction begins
February 12, Friday	Lincoln's Birthday holiday—all offices closed; no instruction
February 15, Monday	Washington's Birthday holiday—all offices closed; no instruction *
March 1, Monday	Application deadline for June 1971 master's degree candidates to request a graduation check and for first summer session 1971 master's degree candidates to request certificates of completion
April 5, Monday	Spring recess begins
April 12, Monday	Instruction resumes
April 13, Tuesday	Martin Luther King, Jr., memorial observance
April 19, Monday	Early registration for summer session begins
April 23, Friday	Day of the Titan
May 3, Monday	Memorial Day holiday—all offices closed; no instruction *
May 21, Friday	Last day of classes
May 24-25, Monday, Tuesday	Examination study days
May 26, Wednesday	Semester examinations begin
May 31, Monday	Memorial Day holiday—all offices closed; no instruction *
June 2, Wednesday	Semester examinations end
June 4, Friday	Commencement (subject to change); semester ends; effective date of graduation for those completing requirements

**SUMMER SESSION 1971—First Session**

April 19, Monday-	
June 7, Monday	Inclusive dates for early registration for summer session
June 21, Monday	First summer session begins—registration and classes
July 5, Monday	Independence Day holiday—all offices closed
July 30, Friday	First summer session ends

**SUMMER SESSION 1971—Second Session**

August 2, Monday	Second summer session begins—registration and classes
September 6, Monday	Labor Day holiday; all offices closed; no instruction
September 10, Friday	Second summer session ends; effective date of graduation for those completing baccalaureate requirements

\* Recent legislation establishes revised dates for observing certain national holidays. The academic calendar reflects these changes.





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Speaker of the Assembly  
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Chancellor of the California State Colleges

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Appointments are for a term  
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Edward G. Lee, B.A. (1974)  
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Robert T. Monagan, B.A.	State Capitol, Sacramento	95814
Speaker of the Assembly		
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Alec L. Cory  
Vice Chairman

E. Guy Warren  
Chairman  
Glenn S. Dumke  
Secretary-Treasurer

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675 North First Street, Suite 1500, San Jose 95112

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E. Guy Warren, B.A. (1973)  
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Philip V. Sanchez, A.B., M.A. (1978)  
1017 East Alluvial Street, Fresno 93726

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Lieutenant Governor of California

Max Rafferty, A.B., M.A., Ed.D.  
State Superintendent of Public Instruction

Robert T. Monagan, B.A.  
Speaker of the Assembly

Glenn S. Dumke, A.B., M.A., Ph.D., L.L.D., L.H.D.  
Chancellor of the California State Colleges

1870 Wilshire  
Boulevard, Los Angeles 90056

State Capitol, Sacramento 95814

State Capitol, Sacramento 95814

State Capitol, Sacramento 95814

State Capitol, Sacramento 95814



# OFFICE OF THE CHANCELLOR OF THE CALIFORNIA STATE COLLEGES

5670 Wilshire Boulevard, Los Angeles 90036

213 938-2981

Glenn S. Dumke	Chancellor
Harry E. Brakebill	Executive Vice Chancellor
C. Mansel Keene	Assistant Chancellor, Faculty and Staff Affairs
Russell G. Whitesel	Vice Chancellor, Academic Affairs
D. Dale Hanner	Vice Chancellor, Business Affairs
Norman L. Epstein	Vice Chancellor and General Counsel
Harry W. Harmon	Vice Chancellor, Physical Planning and Development

# THE CALIFORNIA STATE COLLEGES

---

California State College, Bakersfield  
615 California Avenue  
Bakersfield 93304  
Paul F. Romberg, President  
805 327-9101

California State College, Dominguez  
Hills  
1000 East Victoria Street  
Dominguez Hills 90247  
Leo F. Cain, President  
213 532-4300

California State College, Fullerton  
800 North State College Boulevard  
Fullerton 92631  
William B. Langsdorf, President  
714 870-2011

California State College, Hayward  
25800 Hillary Street  
Hayward 94542  
Ellis E. McCune, President  
415 538-8000

California State College, Long Beach  
6101 East Seventh Street  
Long Beach 90801  
Stephen Horn, President  
213 433-0951

California State College, Los Angeles  
5151 State College Drive  
Los Angeles 90032  
John A. Greenlee, President  
213 224-2011

California State College,  
San Bernardino  
5500 State College Parkway  
San Bernardino 92407  
John M. Pfau, President  
714 887-6311

California State Polytechnic College,  
Kellogg-Voorhis  
3801 West Temple Avenue  
Pomona 91766  
Robert C. Kramer, President  
213 964-6424

California State Polytechnic College,  
San Luis Obispo  
San Luis Obispo 93401  
Robert E. Kennedy, President  
805 546-0111

Chico State College  
Chico 95926  
Robert E. Hill, President  
916 345-5011

Fresno State College  
Shaw and Cedar Avenues  
Fresno 93726  
Karl Falk, Acting President  
209 487-9011

Humboldt State College  
Arcata 95521  
Cornelius H. Siemens, President  
707 826-3011

Sacramento State College  
6000 J Street  
Sacramento 95819  
Bernard L. Hyink, President  
916 454-6011

San Diego State College  
5402 College Avenue  
San Diego 92115  
Malcolm A. Love, President  
714 286-5000

San Fernando Valley State College  
18111 Nordhoff Street  
Northridge 91324  
James W. Cleary, President  
213 349-1200

San Francisco State College  
1600 Holloway Avenue  
San Francisco 94132  
S. I. Hayakawa, President  
415 469-9123

San Jose State College  
125 South Seventh Street  
San Jose 95114  
Hobert W. Burns, Acting President  
408 294-6414

Sonoma State College  
1801 East Cotati Avenue  
Rohnert Park (Cotati) 94928  
Ambrose R. Nichols, President  
707 795-2011

Stanislaus State College  
800 Monte Vista Avenue  
Turlock 95380  
Carl Gatlin, President  
209 634-9101



# THE CALIFORNIA STATE COLLEGES

The 19 California State Colleges, from Humboldt County in the north to San Diego in the south, comprise the largest system of public higher education in the Western hemisphere and one of the largest in the world. Current enrollment exceeds 227,000 full- and part-time students who are served by a faculty that numbers approximately 13,000.

Although San Jose State College, the oldest, was founded over a century ago, the California State Colleges were not drawn together as a system under an independent Board of Trustees until after passage of the Donahoe Higher Education Act by the Legislature in 1960.

Responsibility for the California State Colleges is vested in the Board of Trustees, whose members are appointed by the Governor. The Chancellor is the administrative officer of the Trustees. Together, the Trustees and the Chancellor set broad policy, while delegating responsibility for implementation to the colleges. The Academic Senate of the California State Colleges, consisting of elected representatives of the faculty at each college, recommends academic policy to the Board of Trustees through the Chancellor.

Each college in the system has its own geographic and curricular character, but all emphasize the liberal arts and sciences. Programs leading to the bachelor's and master's degrees, as well as a limited number of joint doctorates, are master planned to anticipate and accommodate student interest and the educational and professional needs of the State of California. The primary responsibility of the faculty is the instructional process, with increasing recognition of the importance of the role of research as a necessary concomitant to high quality teaching.

The California State Colleges are now in the most dynamic period of their development. Prior to World War II, there were seven State Colleges with a peak total enrollment of 13,000. Since 1947, 12 new colleges have been established and sites have been selected for new campuses in Ventura, San Mateo, and Contra Costa counties. California State College, Bakersfield, will open its doors to students for the first time this year. Enrollment in the system is expected to go beyond 400,000 by 1980.

## STUDENT PERSONNEL SERVICES

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Executive Assistant	Emmett T. Long
Director of Facility Planning	James B. Sharp
Building Coordinators	Milton C. Blanchard
	Arthur L. Burroughs
Vice President, Administration	J. Donald Shields
Director of Development	Bernard E. Foster
Personnel Officer	Forrest S. Pine
Publications Manager	Jerry J. Keating
Contracts and Grants Assistant	Helen C. Carter
Coordinator for Campus Police, Security	John A. Gray
Vice President, Academic Affairs	Jack W. Johnson
Executive Assistant	
Dean, School of the Arts	John A. Gray
Dean, School of Business Administration and Economics	Jack W. Johnson

## THE COLLEGE

ADMINISTRATION  
 OBJECTIVES AND HISTORY  
 SPECIAL PROGRAMS AND SERVICES  
 RESEARCH CENTERS AND CLINICS  
 STUDENT PERSONNEL SERVICES

Director, School of Interdisciplinary Studies	John A. Gray
Dean, School of Letters, Arts and Sciences	John A. Gray
Dean of Educational Services and Sciences	John A. Gray
Administrative Assistant	John A. Gray
Dean of Academic Planning	John A. Gray
Administrative Assistant	John A. Gray
Dean of College Library	John A. Gray
Biographical Services	John A. Gray
Processing Services Department	John A. Gray
Director of Office of Academic Advancement	Russell H. Miller
Director of Office of Faculty Records	Lois S. Harmon
Director of Institutional Research and Studies	Kenneth R. Doane
Director of Instructional Media Center	Allen M. Zeitner
Director of Audiovisual Services	Raymond E. Demko
Dean of Students	Etienne A. Becker
Administrative Assistant	David L. Petrash
Director of New Educational Horizons	James C. Fleming
Associate Dean of Students and Director of Admissions and Records	Ralph Emerson Nydrow
Admissions Officer	
Registrar	Mildred H. Scott
Associate Dean of Students and Director of Counseling Center	Charles W. Beck
Counselor	Edward Jacobson
Counselor	Daniel T. Kawakami
Counselor	Arthur W. Lynn
Counselor	Jack Russell
Counselor	Teresa R. Sudhalter
Psychological Consultant, Mental Health Program	Anthony R. Hybl





# ADMINISTRATION

## COLLEGE ADMINISTRATION

President	William B. Langsdorf
Executive Assistant	Emmett T. Long
Director of Facility Planning	James B. Sharp
Building Coordinators	Milton C. Blanchard
	Arthur L. Burroughs
Vice President, Administration	L. Donald Shields
Director of Development	Bernard E. Foster
Personnel Officer	Forrest S. Pine
Publications Manager	Jerry J. Keating
Contracts and Grants Assistant	Helen C. Carter
Coordinator for Campus Police, Safety and Security	Russell J. Keeley
Vice President, Academic Affairs	Miles D. McCarthy
Executive Associate	Charles A. Povlovich
Dean, School of the Arts	J. Justin Gray
Dean, School of Business Administration and Economics	Jack W. Coleman
Dean, School of Education	Eugene L. McGarry
Dean, School of Engineering	Robert G. Valpey
Director, School of Interdisciplinary Studies	David M. Feldman
Dean, School of Letters, Arts and Sciences	Hazel J. Jones
Dean of Educational Services and Summer Sessions	Gerhard E. Ehmman
Administrative Assistant	James T. Mavity
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Administrative Assistant	Doris B. Carlton
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Administrative Assistant	Virginia P. Davis
College Librarian	Ernest W. Toy, Jr.
Bibliographic Services Department	Doris H. Banks
Readers' Services Department	Barbara E. Davis
Processing Services Department	Herta D. Fischer
Director of Office of Academic Advisement	Russell H. Miller
Director of Office of Faculty Records	Lois S. Herron
Director of Institutional Research and Studies	Kenneth R. Doane
Director of Instructional Media Center	Allen M. Zeltzer
Director of Audiovisual Services	Raymond E. Denno
Dean of Students	Ernest A. Becker
Administrative Assistant	David L. Perrault
Director of New Educational Horizons	James C. Fleming
Associate Dean of Students and Director of Admissions and Records	Ralph Emerson Bigelow
Admissions Officer	
Registrar	Mildred H. Scott
Associate Dean of Students and Director of Counseling Center	Charles W. Buck
Counselor	Edward Jacobson
Counselor	Daniel T. Kawakami
Counselor	Arthur W. Lynn
Counselor	Jack Russell
Counselor	Treva R. Sudhalter
Psychological Consultant, Mental Health Program	Anthony R. Hybl

## Schools and Departments

Foreign Student Adviser	Louise G. Lee
Testing Program Supervisor and Research Analyst	Howard K. Morton
Director of Relations with Schools	George O. Enell
Associate Dean of Students and	
Director of Student Activities	T. Roger Nudd
Activities Adviser	Tom L. O'Donnell
Activities Adviser	Terre A. Stier
Director of Housing	Dudley A. Stier
Director of Placement Services	Max W. Burke
Placement Supervisor	Mary G. Condon
Placement Supervisor	Eva C. Jensen
Director of Financial Aids	Thomas D. Morris
Director of Student Health Center	William H. Wickett, Jr., M.D.
Staff Physician	Arthur E. Alne, M.D.
Staff Physician	Robert J. McFerran, M.D.
Staff Physician	Iris O. Moremen, M.D.
Staff Physician	Helen L. Morton, M.D.
Staff Psychiatrist	Robert A. Rounds, M.D.
Business Manager	Thomas A. Williams
Administrative Assistant	Dennis C. Wharton
Budget Analyst	Robert G. Fecarotta
Accounting Officer	Glenn R. Mitchell
Chief of Plant Operation	Beryl E. Kempton
Procurement and Support Services Officer	Paul H. Rodet

## SCHOOLS AND DEPARTMENTS

<b>School of the Arts</b>	J. Justin Gray, Dean
Art Department	Gerald D. Samuelson
Dance Department	Masami Kuni
Music Department	Leo E. Kreter
Theatre Department	Alvin J. Keller

<b>School of Business Administration and Economics</b>	Jack W. Coleman, Dean
	John C. Trego, Associate Dean
	James K. Hightower, Associate Dean
Accounting Department	Robert A. Meier
Economics Department	Levern F. Graves
Finance Department	B. E. Tsagris
Management Department	Donald R. Shaul
Marketing Department	Frank L. Roberts
Quantitative Methods Department	Ben C. Edmondson

<b>School of Education</b>	Eugene L. McGarry, Dean
	Emma E. Holmes, Associate Dean
	Ernest G. Lake, Coordinator for Graduate Studies
Educational Psychology/Special Education/Pupil Personnel Services	Calvin C. Nelson
Elementary/Reading/Secondary Education	Hazel M. Croy
Health Education/Physical Education/Recreation	(Acting) Paul J. Pastor
School Administration/Social Foundations	Ernest G. Lake

<b>School of Engineering</b>	Robert G. Valpey, Dean
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## Schools and Departments

<b>School of Interdisciplinary Studies</b>	David M. Feldman, Director
American Studies	David J. Pivar
Latin American Studies	William J. Ketteringham
Linguistics	David M. Feldman
Religious Studies	Donald H. Gard
Russian Area Studies	Robert S. Feldman
Social Sciences	George Giacomakis, Jr.

<b>School of Letters, Arts and Sciences</b>	Hazel J. Jones, Dean
	... Associate Dean
	... Associate Dean
Anthropology Department	Hans H. Leder
Biological Science Department	Donald B. Bright
Chemistry Department	Andrew F. Montana
Communications Department	J. William Maxwell
English Department	Joan V. Greenwood
Foreign Languages and Literatures Department	Walter D. Kline
Geography Department	Gertrude M. Reith
History Department	B. Carmon Hardy
Mathematics Department	Dennis B. Ames
Philosophy Department	Paul C. Hayner
Physics Department	(Acting) Edward L. Cooperman
Political Science Department	Charles G. Bell
Psychology Department	Ernest H. Dondis
Science and Mathematics Education Department	(On leave) George C. Turner
	(Acting) Robert E. Lepper
Sociology Department	Ernest Works
Speech Communication Department	Lee E. Granell

**Division of Library Science** ..... (Acting) Doris H. Banks

**Department of Ethnic Studies** ..... Robert Serros

## COLLEGE COMMITTEES, 1969-70

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Ernest A. Becker  
Giles T. Brown  
Jack W. Coleman  
Gerhard E. Ehmann  
David M. Feldman  
J. Justin Gray  
Joan V. Greenwood  
Bernard L. Hyink

Emmett T. Long  
Miles D. McCarthy  
Eugene L. McGarry  
\*Robert E. Sandoval  
James B. Sharp  
L. Donald Shields  
Wayne W. Untereiner  
Robert G. Valpey  
Thomas A. Williams

### Faculty Council

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Allen M. Zeltzer, *Treasurer*  
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James W. Cusick  
Franz Dolp  
Edwin Duerr  
George O. Enell  
Julian F. S. Foster  
†Levern F. Graves, *ex officio*  
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Bernard L. Hyink  
Donald W. Keran  
Joseph W. Landon  
Irene L. Lange  
William B. Langsdorf, *ex officio*  
William C. Langworthy  
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Michael T. Lyon  
Gerald C. Marley  
James F. Newell  
Ervie Peña  
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Joyce E. Pickersgill  
Houshang Poorkaj  
John E. Reynolds  
Herbert C. Rutemiller  
\*Robert E. Sandoval, *ex officio*  
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†Eric A. Teel, *ex officio*  
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Eva R. Van Ginneken  
M. John Wagner  
David L. Walkington  
Charles F. Williams  
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Michael Yessis  
†Charles A. Povlovich, *Parliamentarian*

### Staff Council

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Juan R. Casas, *Treasurer*  
Harold Ackerman  
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Fred Q. Evans  
†Joan V. Greenwood, *ex officio*  
†Emmett T. Long, *ex officio*  
Eleanor B. Mortensen  
Donald J. Phillips  
†Forrest S. Pine, *ex officio*  
Josephine T. Webster  
†Miriam J. Bergman, *Parliamentarian*

\* Student

† Member of Statewide Academic Senate.

‡ Nonvoting



### Campus Planning Committee

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Jack C. Emmons, *College Facility Planner, Office of the Chancellor*  
Joan V. Greenwood, *ex officio*  
Bernard L. Hyink

Howard Morgridge, *Consulting Architect*  
John W. Olsen  
James B. Sharp  
L. Donald Shields  
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### Academic Affairs Cabinet

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Ralph Emerson Bigelow  
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Gerhard E. Ehmann  
David M. Feldman  
J. Justin Gray  
Joan V. Greenwood  
Emma E. Holmes

Hazel J. Jones  
John D. Lafky  
Ernest G. Lake  
Miles D. McCarthy  
Eugene L. McGarry  
Charles A. Povlovich  
Ernest W. Toy, Jr.  
John W. Trego  
Wayne W. Untereiner  
Robert G. Valpey

### Graduate Council

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Bernard L. Hyink, *ex officio*  
John D. Lafky  
Ernest G. Lake  
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### Student Personnel Services Cabinet

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\*Bruce W. Birney  
Charles W. Buck  
Max W. Burke  
George O. Enell

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David L. Perrault  
Dudley A. Stier  
William H. Wickett, Jr.

### Advisory Committee on Radiological Safety

Robert E. Spenger, *Chairman*  
W. Van Willis, *Radiological Safety Officer*  
Raymond V. Adams

L. Jack Bradshaw  
Helen L. Morton, M.D.  
Thomas A. Williams

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Jack W. Coleman  
Bernard L. Hyink  
Eugene L. McGarry

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James B. Sharp  
L. Donald Shields  
Ernest W. Toy, Jr.  
Clarence E. Tygart  
Robert G. Valpey  
Thomas A. Williams

\* Student

## College Committees

### Student-Faculty Athletics Board

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Robert C. Belloli  
David E. Van Deventer  
\*Janine A. Farquhar

\*Robert H. Sowersby  
\*Wayne M. Spicer  
†Elmer L. Johnson  
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Leo E. Kreter  
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Donald B. Bright  
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\*Sharon L. Gilbert  
\*Dulcea A. Johnson

\* Student.  
† Nonvoting.



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\*Robert L. Fitzgerald  
George L. Friend, *ex officio*

Hans H. Leder  
Gerald C. Marley  
Eugene L. McGarry

## Computer Facilities and Institutional Research

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\*Jerome A. Busch  
Barbara E. Davis

Munir R. El-Saden  
Joan V. Greenwood, *ex officio*  
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Irene L. Lange  
Alvin H. Rothman  
Wayne W. Untereiner, *ex officio*

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L. Donald Shields, *ex officio*  
Ernest W. Toy, Jr.  
Allen M. Zeltzer, *ex officio*

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Granville W. Hough

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Anne T. Feraru

Sidney Klein  
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Allen M. Zeltzer, *ex officio*

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\*Robert K. Hall

Herbert C. Rutemiller  
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Eric A. Teel, *ex officio*  
Martin A. Treon  
Thomas A. Williams, *ex officio*

\* Student.

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John B. Campbell, *ex officio*  
Joan V. Greenwood, *ex officio*

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James J. Rizza

Eula M. Stovall  
Ernest W. Toy, Jr., *ex officio*  
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### Personnel

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Joan V. Greenwood, *ex officio*

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George Giacomakis, Jr., *ex officio*

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Rita D. Oleyar  
L. Donald Shields, *ex officio*  
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Norman Townshend-Zellner

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Ronald Crowley, *Vice Chairman*  
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George Giacomakis, Jr., *ex officio*  
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Jack E. Kemmerly  
Michael T. Lyon

## PREPROFESSIONAL COMMITTEE, 1969-70

### Premedical Committee

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Ernest A. Becker  
Richard C. Gilbert  
Richard A. McFarland

Andrew F. Montana  
Mildred H. Scott  
Donald D. Sutton  
William H. Wickett, Jr.

*The President of the College and the Chairman of the Faculty Council are ex officio members of all faculty committees.*

\* Student.



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Ica (Ike) C. Adams, *Executive Secretary*

Robert J. Hull, *Controller*

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Roger A. Levy, *Assistant Administrator*

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Gregory S. Bishop

John H. Dunnigan

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C. Barry Rosenfeld

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Richard A. Straton

Raul R. Tapia

David B. Vodden

John M. Walcek

\*David L. Walkington

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William B. Langsdorf

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Orville F. Recht

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Phil N. Scheid

L. Donald Shields

Leo Tamamian

Norman Townshend-Zellner

Mrs. Phillip S. Twombly

†Rusty B. Wilson, *ex officio*

Foundation Manager.....Walter J. Dennison

Foundation Accountant.....William J. Millico

Bookstore Manager.....Douglas S. Pittman

\* Faculty.

† Student.

# OBJECTIVES AND HISTORY

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## OBJECTIVES OF CALIFORNIA STATE COLLEGE, FULLERTON

The main functions of an institution of higher learning are to disseminate and advance knowledge. The philosophy which guides an institution can limit or promote the successful achievement of these objectives. Therefore, from its inception, the college has directed its educational program toward the fullest possible development of the individuals who participate in it. For both faculty and students this entails a commitment to high standards of scholarship, a comprehensive rather than a narrow approach to major areas of study, and a concern with research and other creative activity.

The college holds to the belief that an enduring educational experience must be founded upon exploration of our cultural heritage, through basic studies in the liberal arts and sciences, and that it can and should at the same time prepare for success in a chosen occupation or profession. Accordingly, the required general education program has as its objective the development in each student of:

1. The effective use and interpretation of the written and spoken language.
2. An understanding of the wide range of human endeavor and accomplishments in liberal arts and sciences, their interrelationships, and the various choices and values they represent.
3. An understanding of information and principles in some areas of the liberal arts and sciences in sufficient depth to encourage critical and creative thought and expression.
4. A spirit of inquiry into the past and into the future, in order to cope with conditions in the continually changing world.
5. An understanding of the rights, privileges and responsibilities of citizenship in the community and nation, and of effective participation in today's world.

In addition, the college requires of all students who are candidates for a degree—whatever their special purpose—the pursuit of a subject major.

(For specific details, see page 68)

## HISTORY OF CALIFORNIA STATE COLLEGE, FULLERTON

Orange County is situated on a coastal plain southeast of the City of Los Angeles. A little more than a decade ago the county was regarded as being one of rural characteristics, with emphasis on the production of oranges and other citrus fruits. Today it is referred to as one of the fastest growing counties in the nation, having multiplied its population almost five times in the last fifteen years. Orange County reached the one million mark in population in 1963, to make it the third most populous county in California. The median age of the population is 26.6 years, and 42 per cent are less than 20 years of age. Much of the county is still rural, the county having a population density of 1.37 persons per acre. There are sections, however, that are as dense as 16.64 persons per acre. Every indication points to continued growth, with a predicted population of two million by 1980. Thousands of acres of irrigated agricultural land have been converted to subdivisions, business and industry, freeways, and schools. The electronics industry is the leader in growth among industries and businesses in the county.



California State College, Fullerton, was established by act of the Legislature under the terms of Chapter 1681 of the Statutes of 1957. On March 13, 1958, the Public Works Board selected the site of the college, located in the northeast section of the City of Fullerton. It now consists of 225 acres, and is bounded on the north by Yorba Linda Boulevard, on the west by State College Boulevard, on the south by Nutwood Avenue, and on the east by the Orange Freeway. The college is located within five miles of 60 percent of the industry and within 10 miles of 70 percent of the population of Orange County. It is also within easy driving range of Orange County beaches and mountains, and of the other cultural centers of southern California and their recreation and entertainment areas.

Dr. William B. Langsdorf was appointed president of the college on January 16, 1959, and with two aides came to Fullerton on March 2, 1959, to begin planning for the opening of the new college. Arrangements were made with the Fullerton Union High School District to lease quarters for the college administrative offices on the Fullerton Union High School campus, and to hold classes at the Sunny Hills High School for the 1959-60 school year.

During the first decade the official fall enrollment grew from 452 to 11,020 individuals. Enrollment is expected to surpass 14,000 students in 1970 and peak at 35,000 in the 1980s.

In the fall of 1960, the college opened classes on its own campus where it occupied 12 temporary buildings. The first permanent building, the Letters and Science Building, was occupied in 1963. The Music-Speech-Drama Building was completed in 1964; the Physical Education Building, 1965; the Library and Audiovisual Center, 1966; the Commons, 1967; the Humanities-Social Sciences Building, 1969; and the Art Center, 1970. Both the Administration-Business Administration Building and the Engineering Building are due for completion in 1971, with the Education Building expected to follow in 1972. Additional buildings are being planned for the future.

## ACCREDITATION

The college is fully accredited by the Western Association of Schools and Colleges. Specific programs have been accredited by the California State Board of Education, the American Association of Collegiate Schools of Business, the National Association of Schools of Music and the American Chemical Society.

California State College, Fullerton is a member of the Council of Graduate Schools in the United States and the Western Association of Graduate Schools.

# SPECIAL PROGRAMS AND SERVICES

## INTERNATIONAL PROGRAMS

The California State Colleges offer programs of study for a full academic year at a number of distinguished universities abroad. Students study and live under the same conditions as students at the cooperating universities, but remain enrolled in the California State Colleges, where they may apply their work toward degree requirements in accordance with college regulations. The programs, which are voluntary, cooperative and systemwide in nature, are designed as bona fide academic undertakings with clearly defined educational and professional objectives.

For 1970-71, the cooperating Universities are: University of the Andes, Bogotá, Colombia; University of Aix-Marseilles, France; Free University of Berlin and University of Heidelberg, Germany; University of Ghana; The Hebrew University of Jerusalem and Tel Aviv University, Israel; University of Florence, Italy; Waseda University, Tokyo, Japan; University of Granada and University of Madrid, Spain; University of Stockholm and Uppsala University, Sweden; and National University, Taiwan.

Students are selected on the basis of academic, linguistic and personal qualifications. The criteria are:

- a. Upper division or graduate standing by the beginning of the academic year abroad;
- b. Academic achievement;
- c. Proficiency in the language of instruction;
- d. Faculty recommendations.

Programs in Ghana, Israel, Italy, Japan, Sweden and Taiwan do not require previous linguistic preparation; applicants for all other programs must demonstrate adequate facility in the language of instruction at the host university.

Approximate cost to the student during the 1970-71 year, including round trip transportation from San Francisco, room and board for the academic year, and medical insurance, is \$2,300 for Colombia, France, Germany and Spain; \$2,000 for Israel and Taiwan; and \$2,500 for Ghana, Italy, Japan and Sweden.

Application for the 1971-72 academic year should be made early in the fall semester of 1970. Detailed information may be obtained from the Office of International Programs, the California State Colleges, 1600 Holloway Avenue, San Francisco, 94132.

## LATE AFTERNOON AND EVENING CLASSES

The educational program of the college is offered continuously from 8 a.m. until 10 p.m., Monday through Friday. Classes held during the late afternoon and evening hours are part of the regular college offering and are taught by the college faculty.

Students enrolling in these classes must have met all admission requirements of the college, including the filing of an official application for admission, the filing of complete official transcripts from other schools and colleges, and in the case of lower division applicants, the completion of required tests for admission.

A class schedule, listing all classes meeting in the late afternoon and evening hours, may be obtained at the Titan Bookstore.



## SUMMER SESSIONS

### *Nature of the Summer Sessions*

The summer session is designed to meet the needs of students who are interested in the enrichment of their educational background as well as completing requirements for a degree or credential. Summer session courses are the equivalent of college courses offered in the fall and spring semesters, and apply toward graduation and residence requirements as well as teaching credential requirements. Day-time and evening classes have been scheduled. Many courses have prerequisite requirements which students must meet. Master's degree work is also offered.

The college in 1970 will conduct two six-week summer sessions, from June 15 through July 24, and from July 27 through September 4. There also will be a number of two-week and three-week workshops running concurrently. In addition to much of the regular curriculum, summer offerings include special workshops and seminars for teachers and other professional groups. A program of recreational activities is planned to serve a wide variety of interests.

A tuition fee of \$24.00 per unit is charged plus an Associated Students membership fee of \$6 per person. The summer session class schedule announcing all courses is published in March, and may be obtained by writing the dean of summer sessions. Information may be obtained at any time by telephoning (714) 870-2611, or by visiting the college summer sessions office.

### *Admission to the Summer Sessions*

Although the quality of the program and most of the course offerings are the same as in the regular session, the college does not require an advance application or transcripts from students registering for credit courses in the summer session. However, students must be high school graduates and are expected to have satisfied the prerequisites for the courses in which they register. Admission to summer session does not grant admission to the regular session. Admission to the summer sessions is completed at registration.

### *Authorized Student Load*

The authorized student load is six units for a six-week session, and 12 units for the entire summer. "Not more than one semester unit may be earned for each week of attendance in summer session, except that upon approval of appropriate college authorities, additional semester units may be earned at the rate of one-half unit for each three units of credit for which a student is registered." (Title 5, California State Administrative Code)

This means that combinations can be arranged so that a student may earn up to seven units during either of the two six-week summer sessions when a total of not more than two courses is involved (i.e., a four-unit course and a three-unit course, or a five-unit course and a two-unit course). *Any student who enrolls by error in more than seven units during a six-week summer session will find that credit for excess units will not be counted toward a degree, credential or other objective.* Any other exceptions must be petitioned through the Office of Admissions and Records.

## EXTENSION PROGRAM AND SERVICES

The college cooperates with all community agencies (business and professional associations, chambers of commerce, school districts, industrial firms, economic and cultural groups, city and county governmental units, etc.) in the development of educational programs. These activities may be classes, conferences, institutes, workshops, seminars or they may be consultant services, depending upon the need. In



this manner, the college provides opportunities for the professional, vocational, and cultural improvement of persons unable to pursue an academic program in residence.

*Extension Courses.* Off-campus extension courses may be planned for those wishing to earn college credit and under certain conditions this credit may be applied toward a degree or a teaching credential. Extension offerings are equivalent in level and quality to residence courses. These courses may be modified and designed to meet the particular needs of certain groups and may be initiated at various times during the year. Any adult may enroll in an extension course, provided he meets the prerequisites of the course. Matriculation is not required. Refer to the section of this catalog on fees and expenses for information on fees.

Persons wishing information about organizing an extension course or about current extension offerings should address inquiries to the director of extension.

*Conferences and Institutes.* The college is interested in taking an active part in the development of conferences and institutes. The conference director, in cooperation with the respective academic departments and schools will work with agency representatives in planning the program, selection of a competent staff, and the general conduct of the conference.

Requests for information or assistance with particular educational problems which might be met through the extension program should be directed to the conference director.

## THE COLLEGE LIBRARY

The college library, completed in 1966, is housed on the first and fourth through sixth floors of the Library Building at the center of the campus. As its collection grows and the enrollment increases, the library will occupy the remaining two floors of the building. Designed presently to seat approximately 1,625 persons and to house about 205,000 books as well as related materials, the building contains group study and seminar rooms, study carrels for graduate students and facilities for individual and group listening, for the reading of microform materials and for copying materials in book and microform.

The main book collection will contain about 260,000 volumes at the beginning of the 1970-71 academic year. During that year about 50,000 volumes will be added. Besides attempting to build a balanced collection of basic works, the library has concentrated its efforts in several subject areas. As a result relatively strong collections are now available in such fields as World War II, international relations since 1870, Kant, Shakespeare, Melville, ichthyology, angling, historiography and historical bibliography, and library science.

A selective depository for U.S. government documents since 1964, the library will house about 90,000 documents by the beginning of the 1970-71 academic year. The library has, in addition, some 10,000 reels of microfilmed U.S. government documents, chiefly State Department archives, but also such items as the Congressional Record and the papers of various presidents as well as microfiche copies of the material in Project ERIC. The library is a depository for California state documents and for California curriculum materials.

The library subscribes to almost 4,000 periodicals. It has some 14,000 volumes of sound periodicals and has extensive microform holdings in backfiles of periodicals and of local, national, and international newspapers.

Among its recent interesting purchases have been the Human Relations Area Files and in conjunction with the Patrons of the Library, the Langsdorf Anniversary Collection of Grabhorn Press and Book Club of California books.

Library hours are posted in the lobby and listed in the library handbook which is available at the reference and circulation desks. Professional librarians are on duty at all times to aid students and faculty in the use of library resources.



## **COMPUTER CENTER**

The Computer Center, temporarily located on the fifth floor of the Letters and Science Building, serves as the central computing facility for all of the college. As the central campus computing facility, it provides instructional, research and administrative computing services.

The computing system is a CDC 3150 with 16K word (65K character) memory, card reader, card punch, line printer, two disk drives, and two magnetic tape drives. Data communications equipment connects this system to a larger CDC 3300 computer located at a regional center in Los Angeles; hence, campus users also have access to the CDC 3300 for uses beyond the capability of the CDC 3150. Peripheral equipment such as keypunches and a sorter are available in an open shop area in the Computer Center for student use.

Instruction in computer programming is offered by several departments at the college. Many other departments require use of the computer facility in their course work. Students programs are batch-processed several times daily, and a consulting service to assist users is available. The Computer Center maintains a library of application programs for general use. This library will be augmented as new educational applications programs are developed for the CDC 3150. The following programming languages are supported by the Computer Center: FORTRAN, COBOL, ALGOL and COMPASS (Assembly Language for the CDC 3150).

The Computer Center is scheduled to move to its permanent site on the second floor of the new Administration-Business Administration Building upon the building's completion in 1971.

## **INSTRUCTIONAL MEDIA CENTER**

The Instructional Media Center includes both the extensive Audiovisual Services located in the lower level of the Library Building and the Instructional Television Services located in the TV Studio of the Music-Speech-Drama Building. Services to faculty and students include use of all types of audiovisual equipment and materials, rental of films from major rental libraries, and for faculty: production of transparencies, charts, posters, embossographs and diagrams plus all types of still and motion picture photography. Television services include videotaping facilities and playback both in the studio and on or off campus.

The center is responsible for the coordination and development of instructional applications of media, and the improvement of programs and materials designed for instructional use. Liaison and service relations are maintained with other media learning-oriented units on the campus. Personnel of the center are prepared to assist the college faculty in their analysis of media needs as related to the procurement or production of materials pertinent to instructional development.

## **MEDICAL TECHNOLOGY**

An emphasis in medical technology is available under the M.A. in Biology. Students electing this must take as part of their course requirements Medical Biology 513A (3 units) and 513B (3 units). These courses are given at an approved cooperating hospital laboratory school. For further details consult Dr. Calvin A. Davenport, Department of Biological Science.

## **PARAMEDICAL HEALTH SCIENCES**

(Dental Technician, Nursing, Occupational Therapy, Optometry,  
Physical Therapy, Podiatry)

Although no specific bachelor's or master's degree program is available in the professional areas of dental technician, nursing, occupational therapy, optometry, physical therapy, podiatry, academic preparatory courses for these professions are given in the science departments. Students should register their specific interest preference in the Office of the Dean, School of Letters, Arts and Sciences, and arrange for advisement.

## **PREMEDICAL-PREDENTAL COMMITTEE**

Student counseling with respect to preprofessional programs in medicine, dentistry and other health sciences as well as professional school admission problems are the concern of this committee. (See membership listing, page 26.) All students wishing to prepare for dental or medical careers should register in the Office of the Dean of Letters, Arts and Sciences.

## **PREMEDICAL PREPARATION**

Medical schools are currently seeking applicants with as broad and liberal an educational experience as possible. They recommend that applicants pursue collegiate major programs which are of vital interest to the student. However, all medical schools require a basic minimal training in the natural sciences which includes the following coursework:

- one year of general biology or zoology with laboratory
- one semester of embryology or comparative anatomy
- one year of inorganic college chemistry including qualitative analysis with laboratory
- one semester of quantitative analytical chemistry with laboratory
- one semester of organic chemistry with laboratory
- one year of college physics with laboratory

Most medical school applicants complete a baccalaureate degree program prior to beginning their medical training. However, applications to medical school are processed normally at the termination of the sixth semester (junior year). The medical college admission test, required of all medical school applicants, is taken normally during the spring of the sixth semester (junior year). The prospective medical school applicant should therefore normally plan to complete the above natural science minimal requirements by the end of the junior year. Thus he should begin inorganic chemistry in his freshman year in order to satisfy the prerequisite requirements for the advanced courses in chemistry.

Since medical school admissions are limited, the best prepared applicants are likely to have an advantage. Many medical schools recommend certain courses in the natural sciences in addition to those listed above in the minimal requirements. The prospective applicant is advised to consult the catalogs of those medical schools to which he anticipates applying for additional recommended preparatory subjects. He is further advised to consult a member of the Premedical Committee for assistance in planning his total collegiate program and to obtain copies of optimal programs from the chairman of the Premedical Committee.



## THE CALIFORNIA STATE COLLEGE, FULLERTON FOUNDATION

The California State College, Fullerton Foundation, was established and incorporated in October 1959 to provide essential student and faculty services which cannot be provided from state appropriations; to supplement the program and activities of the college in appropriate ways; and to assist otherwise the college in fulfilling its purposes and in serving the people of the State of California—especially those of the area in which the school is located.

Services provided by the foundation include the operation of various college auxiliary organizations including the bookstore, residence halls, and food service; business administration of scholarship and student loan funds; sponsored research programs; Tucker Wildlife Sanctuary; and certain institutes.

The foundation's overall policies are administered by a board of trustees made up of members of the college faculty, administration and students as well as community leaders.

### READING CENTER

Currently included within the Center for Research in Business, Technology and the Community are the related Center for Economic Education, the Real Estate Research Institute, the Technological Studies Institute, and the Joint Institute for Urban Studies.

The Center for Economic Education is one of many such centers at colleges and universities in the United States working with the National Joint Council on Economic Education to expand economic understanding, career program, and

(1) research in economic and business education; and the community; (2) research in economic training; and (3) research in economic policy, based on administrative staff and formally organized groups of participating faculty.

Through ongoing sponsorship, the Center is affiliated with the Center for Research in Business, Technology and the Community.

The Real Estate Research Institute conducts a continuing research program with special emphasis on urban development in Orange County. Studies are under way in cooperation with various public and private agencies including the University of California, the County of Orange, the State of California, the State of the State of California, and the State of California.

The Technological Studies Institute is a research center in the field of technology and its application to business, industry, and the community.

The Joint Institute for Urban Studies is a research center in the field of urban development and its application to business, industry, and the community.

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# RESEARCH CENTERS AND CLINICS

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## CENTER FOR RESEARCH IN BUSINESS, ECONOMICS, AND THE COMMUNITY

The Center for Research in Business, Economics, and the Community provides:

- (1) School of Business Administration and Economics and other faculty with additional opportunity to participate in research activities in order to improve and reinforce teaching and professional competence;
- (2) Professional research and consultation services to the local area normally considered as being serviced by the college, including private business, labor, agriculture, and local government agencies;
- (3) Educational services, e.g., seminars and conferences, to improve the level of understanding and competence of local decision-makers in specialized areas relating to business administration and economics; and
- (4) A focus, through research, for the education of students and citizens in the business and economic problems of the local community, and for the involvement of faculty in such educational programs.

The operations of the Center are carried out by constituent institutes, programs, and projects for which the Center provides overall leadership and coordination. The institutes are long-term, continuing organizations designed to operate in selected major problem and functional areas of strategic significance and concern to the School. Programs and projects within the Center are organized to carry on work outside the Institutes' area of interest, which are a smaller scale and for a shorter time-span.

Currently included within the Center for Research in Business, Economics, and the Community are: the affiliated Center for Economic Education; the Real Estate Research Institute; the Technological Studies Institute; and the Joint Institute for Urban Studies.

### *Center for Economic Education*

The Center for Economic Education is one of many such centers at colleges and universities in the United States working with the national Joint Council on Economic Education to expand economic understanding. Center programs include (1) services to schools and colleges, individual educators, and the community; (2) research and professional training; and (3) operation of an economic education information center. The Center consists of a broadly based executive policy board; an administrative staff; and formally organized groups of participating users. Although operating autonomously, the Center is affiliated with the Center for Research in Business, Economics, and the Community.

### *Real Estate Research Institute*

The Real Estate Research Institute conducts a continuing research program, with special emphasis on urban development in Orange County. Studies are undertaken in cooperation with various public and private agencies, including the University of California, but primary funding is from the Department of Real Estate of the State of California. Opportunities exist for student participation in the various research activities.



**Technological Studies Institute**

The Technological Studies Institute conducts an interdisciplinary program of technological studies including research activities closely integrated with special course offerings and a library collection on technology. Research activities include study of methodology and techniques for measuring and analyzing technological change and its economic and social impacts; study of technology transfer and applications; and analysis of impacts of technological change on individuals, industries and society. Curriculum activities of the program are coordinated through the Interdisciplinary Center of the college and courses included in the program are listed with that Center's courses in the Catalog.

**Joint Institute for Urban Studies**

The Joint Institute for Urban Studies represents a cooperative effort by California State College, Fullerton and the University of California, Irvine to study the processes and problems of urban development with special reference to Orange County.

**CENTER FOR GOVERNMENTAL STUDIES**

The Center for Governmental Studies is part of the Department of Political Science's expanding research and teaching activities. Established in 1965, the center has four major functions: first, to collect and make available fugitive governmental and political materials; second, to assist local government agencies and citizen groups in the study of local governmental problems; third, to provide students with instruction and experience in research techniques and methodology; and fourth, to provide facilities for community institutes and seminars.

**READING CENTER**

The Reading Center is located in the School of Education. Its primary purpose is to serve as a clinic and laboratory for graduate students in the reading option of the Master of Science in Education. Children from the college community schools attend the Reading Center for diagnosis and remediation. The center houses materials and equipment relating to reading instruction.

**LABORATORY FOR PHONETIC RESEARCH**

The Laboratory for Phonetic Research is the major research and training facility for the program in linguistics at California State College, Fullerton. It is equipped with the necessary electromechanical facilities required for the acoustical and physiological study of human speech.

Its objectives are threefold:

*Instruction.* To provide teaching, training and experience for students who will serve during their professional lives to assist the language handicapped.

*Research.* To provide advanced students and faculty with facilities for research on language function and dysfunction.

*Community service.* To provide qualitative diagnostic assistance to the college community to the extent possible.

The courses which center about the laboratory are designed to prepare students as operators of the electromechanical aspects of clinical and research work in the analysis of normal and disordered speech.

Advanced students and faculty use the laboratory to carry out significant research projects in acoustical, articulatory and experimental phonetics. To date, a wide range of such projects have either been completed or are currently in progress.

## **Special Education Clinic**

The findings of research work carried out in the laboratory are published in an ongoing series, "Reports of the Laboratory for Phonetic Research." This publication is distributed internationally by means of the Educational Resources Information Center in Washington, D. C.

## **SPECIAL EDUCATION CLINIC**

The primary purpose of the Special Education Clinic is to provide intensive experiences for students with children referred by schools and other agencies in the community. The experiences involve educational assessment, instructional methodology and evaluation. All students participating in the clinic attend clinic seminars and prepare cases for presentation at the seminars.

## **SPEECH AND HEARING CLINIC**

The College Speech and Hearing Clinic operates as a nonprofit California State College, Fullerton Foundation agency. In addition is an off-campus clinical program for graduate students that involves experiences within medical and paramedical settings. The primary purpose of the clinics both on campus and off campus is to provide opportunities for teaching, service and research. College students receive clinical experience and opportunity for observation. The on-campus clinic is fully accredited by the Board of Examiners of the American Speech and Hearing Association and the California State Department of Education.

## **TUCKER WILDLIFE SANCTUARY**

The Tucker Wildlife Sanctuary operates as a nonprofit California State College, Fullerton Foundation agency. The sanctuary provides for a program of continuing educational service to the community; a research center for biological field studies; a facility for teacher education in nature interpretation and conservation education; and a center for training students planning to enter into the public service field of nature interpretation.



# STUDENT PERSONNEL SERVICES

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Coordination of Student Personnel Services centers in the Office of the Dean of Students. The professional functions of this area are directly administered by the Office of Admissions and Records, the Office of Relations with Schools, the Counseling and Testing Center, the Activities Office, the Housing Office, the Office of Placement Services, the Financial Aids Office, and the Student Health Center. Collateral responsibilities include foreign student advising, coordination of the California State Colleges' international student programs, selective service, and veterans' affairs.

## RELATIONS WITH SCHOOLS

The Office of Relations with Schools administers a collegewide program to assist undergraduate students in the transition from school to college. This assistance is provided in the form of preadmissions guidance to prospective high school or undergraduate transfer students, counseling with parents, provision of current information about the college's curricula and requirements to high school and college counselors, and research into the articulation problems of the transfer student.

## STUDENT ACTIVITIES

The college recognizes the important role of student activities in education. The activities program represents a variety of areas intended to serve every student according to his interest, ability and available time.

All registered students are members of Associated Students of California State College, Fullerton. The Associated Students are governed through the executive, legislative, and judicial branches of the Associated Students organization. The president and commissioners constitute the executive branch which has the responsibility for the development and administration of the program, including such activities as publications, religious clubs, intercollegiate athletics, intramural athletics, forensics, and music. The Associated Students Senate has full responsibility for legislation by which this program is directed and for the allocation of student funds for the program. The judicial branch serves as the legal body for interpretation of the constitution and enforcement of Associated Student policies.

### *Student Organizations*

Student organizations are encouraged and aided by the college whenever students express a desire for activities which add to their educational opportunities. As a relatively young institution, the development of new organizations to serve the needs of a growing student population is rapid. More than 70 organizations are now recognized, including one local and seven national social fraternities, three national and two local social sororities, departmental professional fraternities, and many service, special interest and religious groups.

### *Student Publications*

The college newspaper, the *Daily Titan*, is published as a product of the journalism classes and financed by the Associated Students. In addition, a handbook is available for use by organizations in the development and operation of their program. Two magazines, the *Iconoclast* and the *Promethean*, are also published by students.

## **Housing**

### **Student News Bureau**

The Student News Bureau was organized in 1960 to provide the outside press with news of student activities on the campus. It is financed by a budgeted allocation from Associated Students.

### **Athletics**

The intercollegiate athletic program consists of teams in baseball, basketball, cross country, football, golf, gymnastics, soccer, swimming, tennis, track and field, water polo and wrestling. A year-round program of intramural activities includes basketball, badminton, flag football, handball, softball, tennis and wrestling, swimming and weight lifting.

The college is a member of the California Collegiate Athletic Association (CCAA). All athletic teams compete under rules of the National Collegiate Athletic Association (NCAA).

### **Intramural Activities**

The intramural program is conducted on a seasonal basis and involves a variety of athletic and recreational activities for both men and women. Rules and regulations which govern participation in the intramural program are available in the Office of the Director of the Intramural Program or in the Student Involvement Center.

### **Extramural Activities**

Participation by women in extramural volleyball, basketball, tennis, swimming, track, and golf is provided through membership in the Extramural Coordinating Council of Southern California and the American Recreation and Athletic Federation for College Women.

### **College Recreation Association**

Individual recreation opportunities in weight training, swimming, handball, volleyball, basketball and badminton are available through membership in the College Recreation Association to members of the student body, faculty and staff.

## **HOUSING**

Othrys Hall provides housing for 561 unmarried students in two modern co-educational residence halls located adjacent to the campus. Rooms are mostly four-person occupancy; however, a few small doubles are also available. Each room has its own private bath. The buildings are fully air-conditioned and carpeted. Among specially designed facilities are a library and swimming pool. Dining facilities are conveniently located on campus in the College Commons.

The residence hall directors and resident advisers of each hall attempt to promote a social, cultural and educational program which supports and expands the classroom experience. The resident has the opportunity to study, assume responsibility through hall government, and discuss serious topics of the day with guest speakers. A new program in experimental education, Project Titan, was begun in fall 1967. Regularly scheduled college classes are scheduled in the residence hall in order to promote a meaningful dialog between faculty members and students in an informal setting.

The Freshman Sponsor Program, initiated in fall 1969, is a program in which selected upperclassmen live with small groups of freshmen and act as adviser-counselor-friend to these groups. The purpose of the Freshman Sponsor Program is to facilitate the transition of freshmen students from high school to a collegiate environment. A tutor service is also available to Othrys Hall students.

The Housing Office maintains listings of apartments and houses for students and faculty who are interested in off-campus living. For students looking for room-



mates, a bulletin board with names of persons currently with an apartment to share is also provided. Further information regarding housing may be obtained from the Housing Office.

### STUDENT HEALTH SERVICES

The purpose of the Student Health Center is to help keep the student in class by providing high quality medical service early in the course of an illness, to provide a healthy and sanitary environment on campus in which to live and study, to stimulate better health awareness among the students, and to educate them to the high standards of good therapeutic and preventive care.

The Student Health Center is in Room 580 of the Letters and Science Building and is open from 8:45 a.m. to 4:30 p.m. each weekday that classes are in session. No staff is available for night or weekend services, or off-campus calls. Special care and time are given to counseling of both emotional and physical problems. Physicians and nurses are continuously on duty during the day to care for emergencies and for the treatment of illnesses and injuries.

Among the services presently offered are the following:

1. Diagnosis and treatment of the usual medical and surgical problems.
2. Physical examinations as required.
3. Emergency care.
4. Routine immunizations.
5. Laboratory and X-ray facilities.
6. Followup care as may be recommended by the student's private physician within the scope of available facilities.
7. Electrocardiography.
8. Physical therapy treatment.
9. Medical counseling.
10. Psychiatric counseling and diagnosis.
11. Specialists' diagnostic services when directly referred by the Student Health Center.

All fees for care in the Student Health Center, unless otherwise specifically stated, have been prepaid by the State of California and by the student's registration fee. Only registered undergraduates and graduates are eligible for all or any of the health services offered. *Emergency* service is available to everyone on campus.

#### Health, Accident, Hospital Insurance

All students are urged to carry this type of insurance. An excellent policy at a low premium is available to all students through the Associated Students' Business Office.

All students living in college-sponsored housing, and foreign students, are required to be covered by this policy.

### PLACEMENT SERVICES

A centralized Placement Office is maintained with responsibilities for assisting students in finding both part-time and career employment. The college believes that it best serves both the student and employers only when its graduates have been placed in the professions for which they are prepared and trained.

#### Part-time Placement

Students wishing part-time jobs either on or off campus are eligible to receive the assistance of the office if they are taking seven units or more. New students may receive service as soon as they have notice of their admission to the college. Secretarial skills are in great demand; but calls for schoolbus drivers, custodians,



## **Counseling and Testing Services**

teacher aids, draftsmen, waiters, clerks, youth and recreation leaders, sitters, gardeners, etc., are received. If students must augment their resources while going to school they are encouraged to limit their work hours to approximately 10 per week.

### **Business, Industry, and Government Placement**

The Career Placement Interviewer assists graduating seniors and graduate students seeking career employment in business, industry, or public service through personal counseling in defining occupational preference, providing active job leads and making up résumés.

In addition, the Placement Center makes arrangements for the on-campus recruitment program which brings the employers to the students. Also available through the center are applications for computerized job placement service operated by the College Placement Council. It is called GRAD (Graduate Résumé Accumulation and Distribution) and it is for the CSCF alumni seeking new professional opportunities.

Located in the Placement Center is the Career Library with an ever-expanding selection of resource materials on career opportunities. Federal, state, county, city and armed forces brochures and applications are also available for student access.

The Placement Center serves as liaison office for the Peace Corps, the military and VISTA offering counseling and information brochures to any interested student.

### **Educational Placement**

Students in the teacher education, pupil personnel services, supervision, or administration curriculum of the college, who are in the final semester of a credential program, or who are in student teaching or directed field work, are eligible to register and receive the services of the Placement Center, chief of which is help in establishing a professional employment file. Such registrants are supplied information on openings and helped to establish their candidacies in the school districts and educational institutions.

Students who are not in the student teaching program but who are completing their credential program at the College are also eligible for service. This includes those about to receive their master's degree, who plan to apply for a junior college credential.

## **COUNSELING AND TESTING SERVICES**

### **Counseling**

Students who need assistance with such concerns as choosing an academic major or vocational goal, with study skills, or with personal problems affecting their academic progress may obtain help through the Counseling Center. The staff of professionally trained counselors and psychologists has available a variety of resources including occupational information files, vocational and psychological tests, college and graduate school catalogs and directories of various kinds to assist the student.

The Counseling Center also maintains contact with agencies and professional persons in the community to whom students may be referred.

Counseling services are available only to fully matriculated, registered students.

### **Testing**

Collegewide testing programs are coordinated and administered by the Testing Center. These include college admissions tests and general tests for graduate school admission. In addition, the Testing Center provides advice and consulting services to instructional departments in the development and administration of admission, selection, and placement tests for use by a specific department.

The Testing Center also conducts ongoing research on the validity and appropriateness of tests used in college testing programs.



Testing requirements for students seeking admission are listed in the admissions section of the catalog. Students seeking information about testing requirements for specific instructional programs should inquire in the appropriate instructional division or the Counseling and Testing Center.

## **INTERNATIONAL EDUCATION**

### **Foreign Students**

Special services for foreign students are coordinated by the foreign student adviser. These services include aid with problems concerning visa status and employment; orientation to academic procedures and requirements; advisement related to finances, social standards, and customs; and to resources and opportunities offered by campus and community.

### **International Programs**

Information concerning study opportunities for American students in foreign universities is available in the Foreign Student Office. The foreign student adviser coordinates the selection of students applying for admission to one of the international programs operated by the California State Colleges in Colombia, France, Germany, Ghana, Greece, Israel, Italy, Japan, Lebanon, Netherlands, Peru, Portugal, Spain, Sweden, Taiwan, United Kingdom.

*(Also see International Programs on page 30.)*

## **FINANCIAL AID**

The Financial Aid Office provides personal guidance and assistance in financial matters to all students. Financial aid administers all scholarships, emergency loans, grants, National Defense Loans, and the work-study programs.

### **Scholarships**

A limited number of scholarships are available for outstanding students. Qualified students should obtain scholarship applications from the Financial Aid Office, and return by April 15 for the fall semester and December 15 for the spring semester. Scholarship applications are evaluated by the College Scholarship Committee. Awards are based on scholastic record, financial need and personal qualifications. Some scholarships are limited to students majoring in specified disciplines. Departmental recommendations weight heavily in such cases.

Scholarships offered by California State College, Fullerton are made possible by interested organizations, business firms and individuals. Recent contributors to the scholarship program include:

- California Congress of Parents and Teachers, Inc.
- CSCF Computer Center Scholarship Fund
- California State Employees' Association (CSCF Chapter)
- California State Firemen's Association
- Delta Delta Delta East Orange County Alumnae Chapter
- Donna Cherry Memorial Scholarship
- Edward Mittleman Memorial Scholarship
- Fourth District, California Parents and Teachers Association
- Fullerton Rotary Club
- Gamma Phi Beta Sorority (Orange County Alumnae)
- Kiwanis Club of Greater Fullerton
- Los Amigos Club of Fullerton
- Lowell Joint Education Association Scholarship
- Mr. and Mrs. Rodney Coulson (President's Award)
- Mu Phi Epsilon Scholarship Fund
- Orange County Engineering Council Scholarship

## **Financial Aid**

Roberta King Maxwell Memorial Scholarship Fund  
Sadie Landon Memorial Music Scholarship Fund  
Sheryl Cummings Memorial Scholarship Fund

### **Loans**

The generosity of organizations and individuals enables the college to offer short-term loans to students who meet unexpected financial difficulties of a temporary nature. Loans from these funds are made for various periods of time and to specified categories of students, according to college regulations and the wishes of the donors. The prime purpose of these loans is to meet educationally related expenses, and thus loans cannot be made for the purposes which are normally financed by private lending institutions. Application for a short-term loan may be made at any time during the school year.

The following is a listing of the loan funds available during the 1970-71 school year:

Altrusa Club of Fullerton Loan Fund  
Associated Students Foreign Student Loan Fund  
Betty Casault Memorial Loan Fund  
Brea Rotary Club Loan Fund  
California Retired Teachers Association (Laura Settle Fund)  
CSCF Faculty Women's Club Loan Fund  
Gerald D. Hudson Memorial Loan Fund  
Gordon S. Fyfe Memorial Loan Fund  
James Merrick Memorial Loan Fund  
Juliann Ashford Memorial Loan Fund  
Kenneth G. Ryhal Memorial Loan Fund  
Laura E. Imhoff Memorial Loan Fund  
Marcella Fisk Memorial Loan Fund  
Michael R. Young Memorial Loan Fund  
Pan-Hellenic Club of Northern Orange County Loan Fund  
Robert E. Edwards Memorial Loan Fund  
Rossmoor Women's Club Loan Fund  
Rotary Club of Fullerton, Foreign Students Loan Fund  
Soroptimist International Club of Fullerton Loan Fund  
Stan Chase Memorial Loan Fund  
Trust-Davis Memorial Loan Fund  
Wilma Doig Steen Memorial Loan Fund  
Zonta Club of Fullerton Loan Fund

### **National Defense Student Loans**

California State College, Fullerton joins with the federal government and the State of California in making long-term, low-interest loans available to students under the National Defense Education Act. Details and applications are available at the Financial Aid Office. Deadlines for submissions of applications are December 1 for the spring semester, April 1 for the summer sessions and June 1 for the fall semester.

All unmarried applicants under age 25 are required to file a Parents' Confidential Statement with the College Scholarship Service, Box 1025, Berkeley 94701, designating California State College, Fullerton as one of the recipients. The Parents' Confidential Statement assists the college to evaluate financial need, and, since it must be on hand before the loan application can be acted upon, early submission is advised. These forms can be obtained at most secondary schools or at the Financial Aid Office.



### **Federal Insured Loan Program**

The college cooperates with the Federal Government and private lending institutions in making guaranteed loans available to full-time students. A loan recipient under this program must meet the following qualifications:

- a. have an adjusted family income of less than \$15,000 per year
- b. be a full-time student
- c. be enrolled and in good standing at the college or accepted for enrollment.

The interest on these loans is 7 percent per annum on the unpaid balance. The United States Office of Education will pay all interest while the student is enrolled as a full-time student. Repayment ranges from 5 to 10 years following graduation, according to arrangements made with the lender. Applications and further information may be obtained from the Financial Aid Office.

### **College Work-Study Program**

The college cooperates with the Federal Government in providing work-study jobs. Students who can establish "need eligibility" may work up to an average of 15 hours a week during the school year and up to 40 hours in the summer. Under this program there are on-campus opportunities such as library and instructional aides, clerks, computer center aides, and laboratory and research assistants. Off-campus jobs in nonprofit community agencies include teacher aides, recreation leaders, office trainees, and administrative interns. Interested students should consult the Financial Aid Office for eligibility requirements.

### **Educational Opportunity Grants**

Federal funds have been made available to the College to use in making grants to undergraduate students who display "exceptional financial need" and who would otherwise be unable to continue their education. These grants range from \$200 to \$1,000 per year and are non-repayable. These grants are always awarded in conjunction with other forms of aid, and thus a Parents' Confidential Statement is required. Deadlines are the same as for the National Defense Student Loans.

### **Combined Intern-teaching and Master's Degree**

A National Science Foundation supported program in biology was started in 1967. This program permits a limited number of qualified biology teachers to attend CSCF a half-day, each day, for two academic school years, in order to complete the regular master's degree in biology. These teachers receive their full salaries from their school districts. Concomitantly, an equal number of qualified graduate students also seeking a master's degree in biology are provided with stipends which permit them to continue their own graduate work, replace the teacher during these half days (as intern teachers), and complete the Standard Teaching Credential with specialization in secondary school teaching. Additional coursework in science education is required through consultation with the Department of Science and Mathematics Education.

## **NEW EDUCATIONAL HORIZONS**

New Educational Horizons is an innovative educational program concerned with the expansion of higher educational resources to meet the needs of *all* students. Through direct focus on the disadvantaged student, it hopes to attain pertinent information that can be disseminated to education in general to effectuate the development of a system that is democratic, flexible and capable of serving the pluralistic society in which it exists.





# ADMISSION TO THE COLLEGE

Requirements for admission to California State College, Fullerton are in accordance with Title 5, Chapter 5, Subchapter 2 of the California Administrative Code as amended by the Board of Trustees of the California State Colleges on January 1, 1967. A prospective applicant who is unsure of his status under these requirements is encouraged to consult with a school or college counselor or the college admission office.

## ADMISSION AS A FRESHMAN

An applicant who has had no college work will be considered for admission under one of the following provisions:

# ADMISSION AND REGISTRATION

*California High School Graduates and Others*

An applicant who is a graduate of a high school in California or who is a graduate of a foreign high school for admission purposes must have a grade point average and total score on the SAT or ACT which meets or exceeds the minimum required eligibility index.

## ADMISSION TO THE COLLEGE

## REGISTRATION

## ACADEMIC ADVISEMENT

Grade point average	SAT/ACT needed
3.50 and above	28/16 or with any score
3.00	100/14
2.50	111/12
2.00	123/10
1.50 and below	Not eligible

## Nonresidents Graduating From High Schools in Other States or Possessions

An applicant who is a nonresident for tuition purposes and who is a graduate of a high school in another state or a U.S. possession must have an eligibility index which would place him among the upper one-sixth of California high school graduates. For 1970-71, the minimum required eligibility index is 1,401 using the SAT (138 with the ACT) and is calculated as in the previous section.

## Graduates of High Schools in a Foreign Country

A graduate of a foreign high school must have preparation equivalent to that required of eligible California high school graduates. The college will carefully review the previous record of all such applicants and only those with promise of academic success equivalent to that of eligible California high school graduates will be admitted. Such applicants are not required to take either the SAT or the ACT tests. Ordinarily, the college does not accept foreign student applicants directly from foreign countries.





# ADMISSION TO THE COLLEGE

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Requirements for admission to California State College, Fullerton are in accordance with Title 5, Chapter 5, Subchapter 2 of the California Administrative Code as amended by the Board of Trustees of the California State Colleges on January 21, 1965. A prospective applicant who is unsure of his status under these requirements is encouraged to consult with a school or college counselor or the college admission office.

## ADMISSION AS A FRESHMAN

An applicant who has had no college work will be considered for admission under one of the following provisions. Except as noted, submission of the results of the Scholastic Aptitude Test (SAT) or the American College Test (ACT) is required.

### *California High School Graduates and Residents*

An applicant who is a graduate of a California high school or a legal resident for tuition purposes must have a grade point average and total score on the SAT or composite score on the ACT which provides an eligibility index placing him among the upper one-third of California high school graduates. For 1970-71 the minimum eligibility index is 3,072 using the SAT (741 with the ACT). It is computed by multiplying the grade point average by 800 and adding the result of the total SAT score, or by multiplying the grade point average by 200 and adding the result to 10 times the composite ACT score. The grade point average is based upon the last three years and does not include physical education or military science. The table below does not cover every case, but gives several examples of the test score needed with a given grade point average to be eligible for admission.

#### *Grade point average*

**3.21 and above**

**2.80**

**2.40**

**2.00**

**1.99 and below**

#### *SAT/ACT needed*

**Eligible with any score**

**832/19**

**1152/27**

**1472/35**

**Not eligible**

### *Nonresidents Graduating From High Schools in Other States or Possessions*

An applicant who is a nonresident for tuition purposes and who is a graduate of a high school in another state or a U.S. possession must have an eligibility index which would place him among the upper one-sixth of California high school graduates. For 1970-71, the minimum required eligibility index is 3,402 using the SAT (826 with the ACT) and is calculated as in the previous section.

### *Graduates of High Schools in a Foreign Country*

A graduate of a foreign high school must have preparation equivalent to that required of eligible California high school graduates. The college will carefully review the previous record of all such applicants and only those with promise of academic success equivalent to that of eligible California high school graduates will be admitted. Such applicants are not required to take either the SAT or the ACT tests. Ordinarily, the college does not accept foreign student applicants directly from foreign countries.

## **Admission of Undergraduate Transfers**

### **Non-high-school Graduates**

An applicant who is over 21 years of age, but has not graduated from high school, will be considered for admission only when his preparation in all other ways is such that the college believes his promise of academic success is equivalent to that of eligible California high school graduates.

### **High School Students**

A student enrolled in high school as a senior will be considered for enrollment in certain special programs if he is recommended by his principal and his preparation and ability are such that in the judgment of the college, the probability of his academic success is equivalent to that required of eligible California high school graduates. Such admission is only for a given program and does not constitute the right to continued enrollment.

### **Other Applicants**

An applicant not admissible under one of the above provisions should enroll in a community college or other appropriate institution. Only under the most unusual circumstances will such applicants be permitted to enroll in the college. Permission is granted only by special action.

### **Recommended Preparation**

Overall excellence of performance in high school subjects and evidence of academic potential provide the best bases for predicting success at California State College, Fullerton. While no course pattern is required, the applicant to be prepared properly to undertake a full program of studies and particularly to pursue the required program in general education, is strongly encouraged to include the following subjects in his preparation for college work at Fullerton: college preparatory English; foreign language; college preparatory mathematics; college preparatory laboratory science; college preparatory history or social science, or both; and study in speech, music, art, and other subjects contributing to a general academic background.

## **ADMISSION OF UNDERGRADUATE TRANSFERS**

An applicant who meets the requirements for admission with freshman standing and who has earned credit in one or more accredited colleges or universities may be admitted if he has a grade-point average of 2.0 (grade C on a five-point scale) or better in the total program attempted at such colleges or universities and is in good standing at the last degree-granting college or university attended.

An applicant who does not meet the requirements for admission with freshman standing must as a condition for admission have earned 60 or more units of college credit with a grade-point average of 2.0 (grade C on a five-point scale) or better, if a California resident, in the total program attempted. Nonresidents of California must have earned 60 or more units with a grade-point average of 2.4 or better in the total program attempted. All applicants must be in good standing at the last college or university attended.

An applicant who does not meet the requirements set forth above may be found eligible for admission on probation with advanced undergraduate standing only under extraordinary circumstances if, in the opinion of the proper college authorities, he is likely to succeed in an academic program. Such admission is granted only by special action.



## **ADMISSION OF GRADUATE STUDENTS**

### **Unclassified Graduate Status**

An applicant who has completed a four-year college course and holds an acceptable baccalaureate degree from an accredited institution, or who has completed equivalent academic preparation as determined by the college, will be admitted as an unclassified graduate student. Such admission does not constitute acceptance to graduate degree curricula.

### **Classified Graduate Status**

A student admitted to the college in unclassified graduate status may be considered for admission to a graduate degree program as a classified student. The applicant must satisfactorily meet the professional, personal, scholastic, and other standards for graduate study, including qualifying examinations. Only those applicants who show promise of success and fitness will be admitted to graduate curricula, and only those who continue to demonstrate a satisfactory level of scholastic competence and fitness shall be eligible to continue in such curricula. Students whose performance in graduate curricula is judged to be unsatisfactory may be required to withdraw from all graduate curricula offered by the college. See the *Graduate Bulletin* as well as the description of graduate programs in this catalog for further information about requirements and procedures.

## **ADMISSION OF FOREIGN STUDENTS**

At the present, the college usually does not accept foreign student applicants directly from foreign countries, with certain very rare exceptions. Only two categories of foreign students will normally be accepted:

- (1) Those who have completed a two-year transfer program in a junior college in the United States with a good academic record.
- (2) Those who have completed a bachelor's degree in an accredited college in the United States and wish to enroll as graduate students.

Application procedures are the same as for other students, except that foreign language transcripts must be accompanied by certified English translations.

## **THE SUMMER SESSION STUDENT**

Although the quality of the program and most of the course offerings are the same as in the regular session, the college does not require an advance application or transcripts from students registering for credit courses in the summer session. However, students must be high school graduates and are expected to have satisfied the prerequisites for the courses in which they register; in addition, students are expected to file a request to register in the summer session. Admission to summer session does not grant admission to the regular session.

## **COMMON ADMISSION AND INTRASYSTEM TRANSFER**

### **New Students**

An applicant admitted to a California State College under regular admission criteria (as a first-time freshman, graduate of a high school in the United States or its possessions; undergraduate transfer; unclassified graduate student) is eligible for admission to another State College in the same term. An applicant to a California State College may request the transfer of his admission file to another state college without payment of an additional application fee. However, admission to any state college is dependent on the fulfillment of application procedures, application deadlines, and space and program availability.



## **Readmission of Foreign Students**

### **Intrasystem Transfer**

A student at a California State College who is eligible to continue at that college is eligible to enroll at any other state college, provided he is in good standing and has a "C" average at the first institution, and applies for intrasystem transfer at least 10 days prior to the close of admission at the second state college. However, transfer to another state college is subject to space and program availability. Application for intrasystem transfer may be made to the Office of Admissions and Records at either state college.

A student on probation at the first state college may apply for intrasystem transfer as above. However, admission to the second state college will be subject to the policies and procedures governing probationary admission at the second state college.

## **READMISSION OF FORMER STUDENTS**

A student previously enrolled in the college, planning to return after an absence of one or more semesters, must file a new application for admission in accordance with procedures set forth below. The application fee is required if the student was not enrolled in either of the two semesters prior to the semester to which he is seeking admission or if he was enrolled in another institution during his absence from California State College, Fullerton. Unless a leave of absence was granted, catalog requirements at the time of readmission will apply.

### **Former Students in Good Standing**

A student who left the college in good standing will be readmitted provided any academic work attempted elsewhere since the last attendance does not change his scholastic status. Transcripts of the record of any work attempted in the interim are required.

### **Former Students Who Were on Probation**

A student on probation at the close of his last enrollment will be readmitted on probation provided he is otherwise eligible. The student must furnish transcripts of any college work taken during his absence.

### **Former Students Who Were Disqualified**

The readmission of a previously disqualified student is by special action only. Ordinarily the college will consider an application for reinstatement only after the student has remained absent for a minimum of one semester following disqualification and has fulfilled all recommended conditions. In every instance, readmission action is based on evidence, including transcripts of study completed elsewhere subsequent to disqualification, which in the judgement of the college warrants such action. If readmitted, the student is placed on scholastic probation.

## **PROCEDURES FOR ADMISSION**

All prospective students, whether for part-time or full-time programs of study in day or evening classes, must file an application for admission and other required documents within the announced filing period. Applicants must be formally admitted to the college to enroll in classes. Because of enrollment limitations prospective students are advised to file applications for admission early in the filing period. Applications will be closed in any enrollment category when enrollment limitations are reached.



### How to apply:

1. Submit a completed application for admission, including the statement of residence, within the announced filing period accompanied by the required application fee.
2. Request required transcripts of record of all previous scholastic work from each school or college attended. The transcripts must be sent by the issuing institution directly to

Office of Admissions and Records  
California State College, Fullerton  
800 North State College Boulevard  
Fullerton, California 92631.

The transcripts required are

—for undergraduates—

- (a) the high school transcript, and
- (b) a transcript from each college or university attended. Undergraduate applicants for a teaching credential must submit two copies of the transcript from each college or university attended;

—for graduates—

- (a) applicants for unclassified graduate standing with no degree or credential objective must submit a transcript from the college or university where the baccalaureate was earned.
- (b) applicants for a master's degree or teaching credential, or both, must submit two copies of the transcript from each college or university attended.

All students are advised that they should also have a complete set of college transcripts for their personal use at all times of advisement.

All transcripts must be received directly from the issuing institution to be considered official and cannot be returned to the student. Foreign language transcripts must be accompanied by certified English translations.

3. If required, submit the scores from either the Scholastic Aptitude Test or the American College Test. Scores are required for all undergraduate applicants with fewer than 60 completed semester units of study (90 quarter units). Applicants to classified graduate curricula must submit the scores of any qualifying examinations required in their prospective program of study.

### Statement of Residence

All applicants for admission to the College must file a Statement of Residence with their application. Students in continuous attendance during successive semesters are not required to complete this form after the initial filing unless there has been a change in their status. Students are held responsible for reporting any change in residence status to the Office of Admissions and Records. Any interruption in attendance requires a new Statement of Residence before re-entrance.

The determination of residence status is governed by laws found in the Government Code and the Education Code, and by court cases interpreting these statutes. For admission and tuition purposes "a resident student" means any person who has been a bona fide resident of the State of California for more than one year immediately preceding the opening of the semester. The residence determination date is established by the Board of Trustees.

Normally, the legal residence of an unmarried minor is that of his parents. Exceptions to the rules on residency determination, or waivers of nonresident tuition, apply under certain conditions for exchange students, a child or spouse of an academic or administrative employee of the California State Colleges, a minor child of an active member of the Armed Forces stationed in California, and full-time



## **Procedures for Admission**

teachers in the public schools holding a valid credential and pursuing instruction for required certification qualification for their current position.

### **Admission to Credential Programs**

Admission to the college as a student does not constitute admission to the teaching credential program. Students who plan to work toward teaching credentials must apply to the School of Education following procedures available from the School of Education.

### **Cancellation of Admission**

A student who is admitted to the college for a given semester but who does not register in the specified semester will have his admission canceled. The student must file a new application form when he again seeks admission and must follow the complete application procedure and meet the then current admission requirements.

### **Honors at Entrance**

Honors at entrance are awarded to both freshmen and transfer students who have demonstrated outstanding achievement in past academic work. For first-time freshmen with no previous college units earned, a grade-point average of 3.5 on a 5-point scale must be earned in the coursework considered for admission to the college. Students who have completed fewer than 60 college semester units of credit must meet the grade-point average criteria for first-time freshmen and must also have earned a 3.5 grade-point average on all this past college work attempted. Students who have completed 60 or more semester college units are eligible if a grade-point average of 3.5 is earned in all college work completed.

### **Undergraduate Entrance Testing Requirements**

All undergraduate students, who have completed fewer than 60 semester or 90 quarter units of college work, are required to submit scores from either one of two national testing programs before eligibility for admission to the college can be determined. This requirement does not affect undergraduate students who have previously attended California State College, Fullerton and who have submitted ACT or SAT scores at the time of their first admission.

Tests will be administered at established test centers. Dates that tests are given and location of established test centers may be obtained from high school and junior college counseling offices, the Testing Office at this college or by writing to the testing services. The addresses of the testing services are:

American College Testing Program, P.O. Box 414, Iowa City, Iowa 52240  
College Entrance Examination Board, Box 1025, Berkeley 94701

#### **To take one of these tests:**

1. Obtain a registration form and a *Student Information Bulletin* from your high school or junior college counselor, from one of the addresses above, or from the College Testing Center. Select a test center near your home from the list printed in the *Bulletin*.
2. Send the completed registration form and the appropriate test fee to the proper address. Do not send to the Fullerton campus.
3. Have your ACT or SAT scores reported to the Testing Center, California State College, Fullerton. These scores should be received before the deadline for application. Use the appropriate code number for score reports.

If you have already taken either the ACT or SAT send \$1 to the appropriate testing agency and request that your scores be reported to the Testing Center. Use appropriate code number when requesting such reports, and provide complete information concerning testing date, test center, name and address changes, etc. These test scores when included on high school or college transcripts are not acceptable.



### **Health Requirements for Admission**

Undergraduate and graduate students must, upon admission, submit completed health history and physical examination forms. In addition, evidence of a negative chest X-ray taken within 12 months before their registration must be presented. A tuberculin skin test may be obtained in lieu of an X-ray. Evidence of a smallpox vaccination within the past 10 years is also required.

The following laboratory services may be completed at the Student Health Center for a charge of \$1: urinalysis, hemotocrit, tuberculin skin test and smallpox vaccination.

All health requirements must be satisfactorily completed before the student will be allowed to complete registration. It is urged that the health clearance be obtained before the date of registration as this will conserve the student's registration time.

## **EVALUATIONS**

### **Evaluation of Transfer Credits**

The Office of Admissions will evaluate previous college work in terms of its relationship to the requirements of California State College, Fullerton. All degree candidates will be issued a credit summary during the first semester of attendance which serves as a basis for determining specific remaining requirements for the student's specific objectives.

Once issued to a student, the evaluation remains valid as long as the student enrolls at the date specified, pursues the objective specified, and remains in continuous attendance. The student will not be held to additional graduation requirements unless such requirements become mandatory as a result of changes in the California Administrative Code or the California Education Code. If the student does not remain in continuous attendance and has not applied for and been granted a formal leave of absence, the evaluation issued upon readmission will specify the remaining requirements for the student's specific objectives.

In view of the foregoing regulations, the student should notify the Office of Admissions immediately if he changes the objective specified in his evaluation. While the evaluation for a student remains valid, the student is held responsible for complying with all changes in regulations and procedures which may appear in subsequent catalogs.

### **Acceptance of Credit**

Credit for work completed at accredited institutions will be accepted toward the satisfaction of degree and credential requirements at the college within limitations of residence requirements, junior college transfer maximums, and course applicability.

### **General Policy**

Transfer credit is not limited to those courses which precisely parallel the courses offered at the college. Credit is normally granted for all courses completed at other accredited institutions which reasonably correspond to one of the various curricula described in this catalog. Courses which do not appear to correspond with offerings at the college are ordinarily not granted transfer credit. Courses in vocational or shop-type courses, and remedial courses are examples of courses not accepted for transfer credit. Students who have completed work at professional schools in the field of art or music or similar fields may expect a reduction in credit if the work completed carries a credit value in excess of that normally allowed for corresponding courses or areas at the college.

## Evaluations

### Transfer of Credit From a Junior College

Upper division credit is not allowed for courses taken in a junior college. Credential credit is not allowed for courses in professional education taken in a junior college. This does not invalidate credit for preprofessional courses taken at a junior college, such as introduction to education, art or design, arithmetic, or music for classroom teachers. After a student has completed 70 units of college credit, whether at a junior college or a four-year institution, or at both, no further junior college units will be accepted for unit credit.

### Credit for Military Service

Students who have been in active military service for at least a year may be granted six units of undergraduate credit. Courses taken in service schools may be given credit on the basis of an evaluation which determines that they are of college level. Any credit for military experience will be given only upon request. Records verifying such experience must be filed with the Office of Admissions.

### Credit for Extension and Correspondence Courses

The maximum amount of credit through correspondence and extension courses which may be allowed toward the bachelor's degree is 24 units, of which not more than 12 may be transferred from another college or university.

### Credit by Advanced Placement

Students who have successfully completed courses in the advanced placement program (defined as receiving a score of 3, 4 or 5) shall be granted credit toward graduation, advanced placement in the college's sequence courses, and credit for curriculum requirements.

### Credit by Examination

Students may be granted credit for a course toward graduation and to meet curriculum requirements by the satisfactory completion of a *challenge examination* in that course requirement. The examinations are to be comprehensive and administered by the department in which the course is offered. Well in advance of the *challenge examination* the student will secure written approval of his major adviser and the chairman of the department in which the course is offered. Upon the successful completion of the examination, the notation on the permanent record of the student will be made as "CR" for the course. "CR" is to indicate credit for the course with a passing grade. Upon failure of the examination, the notation on the permanent record of the student will be made as "No CR" for the course. Credit by examination may not be used to fulfill the minimum residence requirements. The *challenge examination* for any course may be attempted only once. A maximum of 30 credits can be earned by *challenge examination*, including those achieved by advanced placement.

### College Level Examination Program

The college will consider examination results from the College Level Examination Program of the College Entrance Examination Board for placement and credit. Study is currently underway to establish specific policy on placement and credit in degree curricula for those who complete one or more examinations in the College Level Examination Program. Further information about this program may be obtained from the Office of Relations with Schools.



# REGISTRATION

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## Orientation

Various opportunities are provided for new students to obtain information relating to academic programs, student services and activities, and other aspects of college life. Information about specific programs will be found in the *Class Schedule*.

## Registration

Registration is the final step in enrollment. When a student has been admitted by the Office of Admissions, he should obtain a *Class Schedule* before the beginning of each term. The *Class Schedule* contains details regarding courses offered and the registration schedule. Students consult with their advisers during registration.

At registration, every student is required to file a program card with the Office of the Registrar. The filing of a program card by the student and its acceptance by the college obligates the student to perform the designated work to the best of his ability. All undergraduates are urged to declare a major at the earliest practicable time and not later than at the time they have completed 60 units of college work. Registration is not official until fees have been paid, and no student is allowed to attend classes until all steps in the registration process have been completed.

## Late Registration

The last day to register late each semester will be announced in the *Class Schedule*. Late registrants will find themselves handicapped in arranging their programs and must pay a \$5 late registration fee in addition to regular fees.

## Change of Program

Each student is responsible for the program of courses he selects and lists when he registers. Changes may not be made thereafter without the filing of a change of program form in the Office of the Registrar. All applications for courses dropped or added cost a \$1 change of program fee. No classes may be dropped during the last four weeks of instruction, although complete withdrawal from college is still possible.

## Concurrent Enrollment

A student enrolled at the college may enroll concurrently for additional courses at another institution only with advance written approval from the student's academic adviser on official forms filed in the Office of the Registrar. Permission will not be granted when the study load in the proposed combined program exceeds the units authorized at this college.

## Auditors

A properly qualified student may enroll in classes as an auditor. The student must meet the regular college admission requirements and must pay the same fees as other students. An auditor may not change his registration to obtain credit after the last date to add courses to the study list. An auditor is not permitted to take examinations in the course.

## VETERANS

California State College, Fullerton is approved by the Bureau of Readjustment Education, State Department of Education, to offer programs to veterans seeking benefits under state and federal legislation. All students seeking veterans benefits must have a degree or credential objective.

# Selective Service

Applications for benefits should be filed well in advance of the semester in which the veteran plans to use these benefits in order to have the authorization at the time of registration.

## SELECTIVE SERVICE

Male students requiring certification of student status for selective service purposes may request the Office of Admissions and Records to submit SSS Forms 103, 109, or 109A, to their local boards. Undergraduate students shall normally be enrolled for 12 units a semester to be considered full time for this purpose. Graduate students enrolled for nine units of study may be considered full time provided at least three units are 500-level courses.

All students are advised that by enrolling each consecutive term at the minimal level to qualify for full-time certification they may not achieve the degree and credential programs within the time limit allowed by the Selective Service System.

## RESERVE OFFICERS' TRAINING CORPS

California State College, Fullerton does not have a Reserve Officers' Training Corps program. However, a two-year program is available to eligible male students through cooperation with the University of Southern California where an Air Force ROTC program is conducted. For complete information, write the Professor of Aerospace Studies, University of Southern California, Los Angeles 90007.

## FEES AND EXPENSES

Application fee (nonrefundable) ..... \$20.00

### Registration Fees

#### Regular students (more than 6 units)

Materials and service fee.....	54.00
Associated Students fee .....	10.00
College Union fee .....	8.00
Facilities fee .....	3.00

Total per semester ..... \$75.00

#### Limited students (1-6 units)

Materials and service fee .....	54.00
Associated Students fee .....	5.00
College Union fee .....	4.00
Facilities fee .....	3.00

Total per semester ..... \$66.00

#### Music studio lesson fee

Per lesson ..... \$1.00 to \$10.00

#### Summer Session fees

Per unit or fraction of unit .....	24.00
Associated Students fee .....	2.00
College Union fee .....	4.00

#### Extension fees

Per unit or fraction of unit ..... \$20 to \$40



### **Other Fees or Charges**

Nonresident tuition fee (in addition to fees required of resident students, except for enrollment in extension or summer session)

15 units or more per semester.....	\$550.00
Less than 15 units, per unit or fraction of unit.....	37.00
Nonresident foreign students (in addition to fees required of resident students)	
15 units or more per semester.....	300.00
Less than 15 units, per unit or fraction of unit.....	20.00
Late registration fee (in addition to other fees listed above).....	5.00
Check returned from bank for any cause.....	2.00
Change of program fee.....	1.00
Transcript fee (no charge for first copy).....	1.00
Failure to meet administrative required appointment or time limit.....	2.00

### **Auditors pay the same fees as others**

*Fees are subject to change by the Trustees of the California State Colleges*

#### **Refund of fees**

Upon withdrawal from college, the materials and service fee may be refunded if written application for refund, on forms provided by the college, is submitted to the Registrar not later than 14 days following the day of the term that instruction begins; provided that the amount of \$10 shall be retained to cover the cost of registration. Late registration fees, change of program fees and application fees are not refundable.

The entire fee may be refunded if a student is unable to continue his registration because of a college regulation or because of compulsory military service. Application for refund under such circumstances may be made at any time before the date when the student receives any academic credit for the courses for which he is registered.

The difference between the applicable materials and service fee, less \$5, may be refunded if the unit load of the student is reduced to a lower materials and service fee category within the 14 days following the day of the term that instruction begins.

#### **Parking fees**

Semester pass (nonreserved spaces):

Regular student .....	\$13.00
Limited student (1-6 units) .....	6.00
Coin operated gate, per admission .....	.25
Summer session, each six-week period .....	5.00

#### **Typical Student Expenses**

Typical school year budgets for California residents living in the college residence hall will be approximately \$2,010. Budgets for students living at home or making other housing arrangements will vary widely. It is estimated that, including an \$800 yearly allowance for room and board, the cost will approximate \$1,600. Nonresident students must also allow for nonresident tuition.

## ACADEMIC ADVISEMENT

All undergraduate students working toward a degree or credential are assigned an adviser in the major field. Those seeking a credential will also be assigned a professional adviser in the School of Education.

Graduate students in all instructional areas except education will be assigned a major adviser. In education, all will have a professional adviser. Those students seeking a credential for teaching secondary schools will be assigned both a professional adviser and a major adviser.

California State College, Fullerton believes its students have the capability to plan their schedules and to make a selection among available sections of a course. Such matters are the proper responsibility of the student and not of his adviser.

Advisers are assigned by department chairmen. The adviser is basically a resource person who will help the student plan his academic program so that he meets the requirements of the major or credential objective in the most desirable manner. While the adviser can provide valuable information and suggestions to the student, the ultimate responsibility for the program the student plans and the courses he chooses lies with the student himself.



# GENERAL REGULATIONS

## ENROLLMENT DEFINITIONS AND REGULATIONS

### Unit of Credit

Each college semester unit represents three hours of college work per week for one semester. Courses are of three types:

- (1) Lecture—one hour in class plus two hours of study.
- (2) Activity—two hours of class plus one hour of study.
- (3) Laboratory—three hours in class.

Some courses may combine two or more of these types.

### Classification in College

Undergraduate students who have completed 0-29% semester units of work are classified as freshmen, 30-59% semester units as sophomores, 60-89% as juniors, and 90 or more as seniors.

### Study List Limits

Students are normally permitted to enroll in a maximum of 15 units per semester. However, upon special approval of the advisor, the student may take additional units. The foregoing limits apply to students enrolled in college on a full-time basis. Students may be permitted to reduce the study list to reduce the unit load.

# REGULATIONS

## GENERAL REGULATIONS

### GRADUATION REQUIREMENTS FOR

### BACHELOR'S DEGREE

### THE PROGRAM OF MASTER'S DEGREES

### Undergraduate Students Taking Graduate Courses

Graduate level (500) courses may be permitted to count in a graduate-level only course if:

- (a) They are within 9 units of completion of graduation requirements, or
- (b) They are exceptionally qualified seniors whose undergraduate work in the related field or fields has been of 3.3 grade-point average or better, and whose cumulative overall grade-point average is at least 3.25.

Such cases shall require specific approval by the chairman of the department in which the course is offered and by the chairman of the student's major department.

Graduate level (500) courses taken under (a) above may be applied to a graduate program.

Graduate level (500) courses taken under (b) above may be applied to the undergraduate program only.

## GRADING PRACTICES

### Grading System

University grade

A

B

C

C+ or P

Grade-point value

4

3

2

Not assigned





# GENERAL REGULATIONS

## ENROLLMENT DEFINITIONS AND REGULATIONS

### Unit of Credit

Each college semester unit represents three hours of college work per week for one semester. Courses are of three types:

- (1) Lecture—one hour in class plus two hours of study.
- (2) Activity—two hours of class plus one hour of study.
- (3) Laboratory—three hours in class.

Some courses may combine two or more of these types.

### Classification in College

Undergraduate students who have completed 0-29½ semester units of work are classified as freshmen, 30-59½ semester units as sophomores, 60-89½ semester units as juniors, and 90 or more as seniors.

### Study List Limits

A student is normally permitted to enroll in a maximum of 16 units each semester (engineering students are excepted), with 12 units considered the *minimum* full-time load. However, upon written approval of his adviser, the student may carry additional units. The foregoing limits apply to undergraduate students attending college on a full-time basis. Students with outside responsibilities are strongly advised to reduce their program of study. The minimum full-time program of study for graduate students as defined in the "Graduate Policies and Procedures" section of this catalog.

### Undergraduate Students Taking Graduate Level Courses

Graduate level (500) courses are organized primarily for graduate students. Undergraduate students may be permitted to enroll in a graduate level (500) course if:

- (a) They are within 9 units of completion of graduation requirements, or
- (b) They are exceptionally qualified seniors whose undergraduate work in the related field or fields has been of 3.5 grade-point average or better, and whose cumulative overall grade-point average is at least 3.25.

Such cases shall require specific approval by the chairman of the department in which the course is offered and by the chairman of the student's major department.

Graduate level (500) courses taken under (a) above may be applied to a graduate program.

Graduate level (500) courses taken under (b) above may be applied to the undergraduate program only.

## GRADING PRACTICES

### Grading System

#### Satisfactory grade

A  
B  
C  
Cr or P

#### Grade-point value

4

3

2

None assigned

## Grading Practices

Unsatisfactory grade		Grade-point value
D	_____	1
F	_____	0
NR (No Report)	_____	0
Special grade		
E (Incomplete)	_____	0
AU (Auditor) (no credit toward degree or credential)	_____	None assigned
W (Passing withdrawal)	_____	None assigned
NP or NC (not passed—no credit)	_____	None assigned

With the exception of the grades of E, AU, W, P, NP, and Cr, all units attempted are computed in the student's grade-point average.

### Incomplete Work

A grade of E may be given only when, in the opinion of the instructor, a student cannot complete a course during the semester of enrollment *for reasons beyond his control*. Such reasons are assumed to include: illness of the student, or of members of his immediate family, extraordinary financial problems, loss of outside position, and other such exigencies. In assigning a grade of E, the instructor will file with his department a statement of the specific requirements for completion of coursework. Such requirements will not include or necessitate retaking the course. This statement will also include a provisional grade indicating the quality of work completed at that time, and the instructor's designation of the time limit allowed for completion of course requirements. Upon later completion of the course requirements, or upon expiration of the time limits for completion of course requirements, the instructor shall initiate a change to a grade of A, B, C, D, P, NP, or F. Instructional departments will determine procedures for completion of course requirements and assigning grades for such completed course work, in those special circumstances where the instructor is no longer available.

### Pass/No Pass

Each student shall be permitted to select a maximum of one course, including its concomitant laboratory, in subjects outside of the major requirements in each term on a pass/no pass basis, not counting courses normally taught on a pass/no pass basis. For purposes of pass/no pass, the phrase "major requirements" can be taken to include core plus concentration (or option) requirements in departments using such terms and professional course requirements in teacher education curricula.

The student must declare his intention to take the course on a pass/no pass basis when he registers. Under no circumstances will he be permitted to change his declaration after the first week of classes in any given semester. Any student attempting a course on a pass/no pass basis must meet the prerequisites for that course.

The policy of pass/no pass applies to undergraduate students, nonobjective graduate students, and to classified graduate students for courses not included in the approved study plan.

### Grade Reports to Students

A report of the final grades assigned in classes is sent to each student at the end of each semester.

### Student Writing

Students will be required to demonstrate, in all classes where written expression is appropriate, their ability to write clearly and correctly about the materials of the course. Ability of a student to demonstrate writing proficiency shall be used as a part of the final grade determination in any course.



**Examinations**

Final examinations are required in all courses and are given at times scheduled by the college. No examination may be scheduled for a class at another time unless approved by the dean of the school. No makeup final examination will be given except for reason of illness or other verified emergencies.

**Grade-Point Averages; Repetition of Courses**

Grade-point averages are calculated by dividing grade points earned by units attempted. Work attempted at all institutions, including California State College, Fullerton, is included in all-college calculations. Work attempted at other institutions may not be included in CSCF-only averages.

When any course is repeated both grades are considered in computing grade-point averages. However, successful repetition of a course originally passed carries no additional unit credit towards a degree or credential.

**TRANSCRIPTS**

Upon request to the Office of the Registrar, each student will be provided with one official copy of his college record without charge. A charge of \$1 will be made for each additional transcript requested by the student. No transcript will be supplied for college work taken in other institutions.

**CONTINUOUS RESIDENCY REGULATIONS****Good Standing**

"Good standing" indicates that a student is eligible to continue or to return, and is free from financial obligation to the college and from disciplinary action. A student under academic or disciplinary disqualification is not eligible to receive a statement of "good standing" on transcripts issued by the college.

**Election of Regulations**

A student remaining in continuous attendance in regular sessions and continuing on the same curriculum in a state college may, for purposes of meeting graduation requirements, elect to meet the graduation requirements in effect either at the time of his entering the curriculum or at the time of his graduation therefrom, except that substitutions for discontinued courses may be authorized or required by the proper college authorities.

**Continuous Enrollment for Graduate Students**

A graduate student with a graduate degree objective is expected to maintain continuous enrollment in the college (summer sessions excluded) until completion of the degree. If a student pursuing an advanced degree finds it impossible to attend during a certain semester, and is not eligible for a leave of absence, as detailed elsewhere in this catalog, he may request permission to register in Graduate Studies 700, a pass/no pass course with one unit of credit, which does not require class attendance. A student may not register in Graduate Studies 700 for a third consecutive semester.

A graduate student who fails to register has severed his connection with the college.

**Leave of Absence**

A student may petition for a leave of absence and if approved may upon his return continue under the catalog requirements that applied to his enrollment prior to the absence. Except in the case of required military service a leave of absence may be granted for a maximum of one year. Illness and compulsory military service are the only routinely approved reasons for a leave of absence.

## **Student Honors**

### **Policy on Grades for Withdrawal**

Students are obliged to notify the Office of the Registrar of changes in their programs involving dropped classes. Failure to file an official change may result in a penalty mark being recorded. Through the sixth week of instruction in the semester no record of enrollment will be made of dropped classes. After six weeks students are expected to complete all courses in which they are enrolled. However, for reasons of ill health or other unforeseen problems the student may drop a class, or classes, and receive a grade (W—withdrawal, or F—failure) by obtaining the signature of the professors involved and filing the change with the Office of the Registrar on the forms provided.

Ordinarily, classes may not be dropped during the last four weeks of instruction, although complete withdrawal from college is still possible.

### **Complete Withdrawal From College**

Students who wish to withdraw from the college must complete a withdrawal-from-college card. See section on refund of fees for possible refunds. No student may withdraw after the date shown on the college calendar as the last day of instruction. Complete withdrawal from college is accomplished by following the procedures for dropping classes in addition to procedures for withdrawal.

## **STUDENT HONORS**

### **Dean's List**

Academic achievement is recognized with the publication each semester of a list of students whose grade-point average for the previous term has been 3.5 or better. Students are notified in writing by the dean of students when they have earned this distinction. Eligibility is based on a minimum of 12 units of course work.

### **Honors at Graduation**

Honors at graduation have been defined by the Faculty Council in three classifications:

With honors .....	GPA 3.5
With high honors .....	GPA 3.85
With highest honors .....	GPA 4.0

## **PROBATION AND DISQUALIFICATION**

### **Academic Probation**

Academic probation serves to identify and to bring to the attention of appropriate college authorities a student who is experiencing academic difficulties.

A student shall be placed upon academic probation if either his cumulative grade-point average or his grade-point average at California State College, Fullerton falls below 2.0 (grade of C on five-point scale). The student shall be advised of probation status promptly and, except in unusual instances, before the end of the first week of instruction of the next consecutive enrollment period.

A student shall be removed from the probation list and restored to clear standing when he earns a cumulative grade-point average of 2.0 (C) in all academic work attempted, and in all such work attempted at California State College, Fullerton.

### **Academic Disqualification**

A student on academic probation shall be subject to academic disqualification if:

1. As a lower division student (fewer than 60 semester hours of college work completed) he falls 15 or more grade points below a 2.0 (C) average on all college units attempted or in all units attempted at this college.



2. As a junior (60 to 89½ semester hours of college work completed) he falls 9 or more grade points below a 2.0 (C) average on all college units attempted or in all units attempted at this college.
3. As a senior (90 or more semester hours of college work completed) he falls 6 or more grade points below a 2.0 (C) average on all college units attempted or in all units attempted at this college.

A graduate student (unclassified or classified) shall be disqualified if he falls below a 2.0 (C) average in all units attempted at this college as a graduate student.

### Student Conduct

The college properly assumes that all students are in attendance to secure a sound education and that they will conduct themselves as mature citizens of the campus community. *Compliance with all regulations of the college is therefore expected.* If, however, on any occasion a student or an organization is alleged to have compromised accepted college policies or standards, appropriate judiciary procedures shall be initiated through the established college judicial process. Every effort will be made to encourage and support the development of self-discipline and control by students and student organizations. The dean of students, aided by all members of the faculty and advised by the Student Affairs Committee of the faculty, is responsible to the President of the college for the behavior of students in their relationships to the college. The President in turn is responsible to the Chancellor and the Trustees of the California State Colleges who themselves are governed by specific laws of the State of California.

## RIGHT OF PETITION

Students may petition for review of certain college academic regulations when unusual circumstances exist. In such instances, students are requested to file a petition on a form designated for this purpose in the Office of Admissions and Records. All petitions must first be reviewed and signed by the student's adviser. Action will then be taken on the petition and the student will be notified of this decision. A copy of the action will also be placed in the student's folder in the Office of the Registrar.

Students also have the right to appeal certain disciplinary actions taken by appropriate college authorities. Regulations governing original hearings and appeal rights and procedures have been carefully detailed to provide maximum protection to both the individual charged and the college community. Information about the operation of the judicial system involving student discipline may be obtained in the Office of the Dean of Students.

# GRADUATION REQUIREMENTS FOR THE BACHELOR'S DEGREE

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A student is eligible for graduation if he is in good standing and fulfills the following requirements:

## **I. General Education**

To be eligible for a baccalaureate degree from California State College, Fullerton, the student shall have completed a minimum of 45 semester units of general education courses selected in accordance with the pattern designated below. Such courses may be lower division courses or upper division courses for which the student qualifies.

### **I. Natural Sciences Minimum: nine units**

The student shall select a minimum of two courses, one from each of two fields which shall include the following: biological sciences, chemistry, earth sciences, physics and physical science.

### **II. Social Sciences Minimum: nine units**

The student shall select a minimum of three courses, one from each of three fields which shall include the following: anthropology, economics, geography, history, political science, psychology and sociology.

*Note:* Of the courses taken to meet the requirements in United States History, Constitution, state and local government (California Administrative Code, Section 40404), a maximum of three units may be applied for credit in Section II.

### **III. Arts—Humanities Minimum: nine units**

The student shall select a minimum of three courses, one from each of three fields which shall include the following: art, drama, language (English, intermediate or advanced courses in foreign languages), literature (American, comparative, English, foreign), music, philosophy and speech.

### **IV. Basic Subjects Minimum: nine units**

The student shall select a minimum of three courses, one from each of three fields which shall include the following: computer science, elementary foreign languages, health education, mathematics, oral communication, physical education, reading, statistics and writing.

### **V. Electives**

The student may fulfill the remaining units required for general education by selecting any undergraduate course offered by the college for credit except courses which apply to the student's major or credential program.

Transfer students certified under provisions of California Administrative Code, Title V, as having met the 40-unit minimum general education requirements will be required to complete five additional units in general education selected from two or more sections, I - V above.

In addition to general education-breadth requirements California Administrative Code, Section 40404, states that for graduation the student is required "to demonstrate competence in the Constitution of the United States, and in American History including the study of American institutions and ideals, and of the principles of state and local government established under the Constitution of this State." To meet this requirement, the student may select from the following alternatives:



1) pass a comprehensive examination in these fields, 2) pass Political Science 100 and a course in U. S. history, 3) pass a combination of Political Science 300 and History 170A or 170B. Coursework completed to satisfy Section 40404 may be applied in the social sciences area of general education to a maximum of three units.

**2. Units****(a) Total units**

A minimum of 124 semester units is required for graduation with a bachelor of arts degree. The Bachelor of Science in Engineering requires a minimum of 136 semester units.

**(b) Upper division units**

Completion of a minimum of 40 units of upper division credit is required.

**(c) Resident units**

Completion of a minimum of 24 semester units in residence is required. At least one-half of these units must be completed among the last 20 semester units counted toward the degree. Extension credit, or credit by examination, may not be used to fulfill the minimum residence requirement.

**3. Scholarship**

(a) A grade-point average of 2.0 or better is required on all units attempted, including those accepted by transfer from another institution.

(b) A grade-point average of 2.0 or better is required on all units in the major.

(c) A grade-point average of 2.0 or better is required on all units attempted at California State College, Fullerton.

**4. Major**

Completion of all requirements for a major as specified by appropriate college authority is required.

**5. Multiple Majors and Second Baccalaureate Degrees****Second Majors**

Within the units required for the baccalaureate it is possible for a student to complete the requirements for more than one major within a degree program when the additional major is within the degree program of the first major. The student shall declare the additional major with the appropriate department not later than the beginning of the student's final year of study. The completion of additional majors will be noted at the time of graduation by appropriate entries on the academic record and on the commencement program.

**Second Baccalaureate****(a) First degree completed elsewhere, second at CSCF**

Students seeking a bachelor's degree from CSCF after having received a baccalaureate from another institution may qualify for graduation with the approval and recommendation of the faculty upon completion of the following:

(1) general education requirements

(2) all requirements in the major field of study

(3) residence and scholarship requirements

**(b) Two baccalaureates from CSCF**

A student completing a baccalaureate program at CSCF will have completed the general education, residence, and scholarship requirements. With the approval and recommendation of the faculty, he may qualify for a second baccalaureate under the following circumstances:

## Bachelor's Degree

- (1) The second field of study is offered in a different program (e.g. bachelor of arts to bachelor of science)
- (2) At least 24 units are earned in residence beyond the requirements for the first degree
- (3) All requirements of the major are fulfilled

Units included in second baccalaureate programs may not apply to graduate degrees or credential programs.

### 6. Minor

Completion of a minor field is *not* required for the baccalaureate degree at this time.

### 7. Graduation Requirement Check

A candidate for graduation should file an application for a graduation requirement check in the Office of the Registrar during registration of the semester prior to the semester in which he expects to graduate. No graduation requirement check should be requested unless and until the senior has completed 100 semester hours and a substantial portion of his major requirements (including the current work in progress). If the candidate does not complete the requirements in the semester indicated, *he must request a second graduation check indicating the new date.*

### 8. Approval and Recommendation by the Faculty of the College



# THE PROGRAM OF MASTER'S DEGREES

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Master's degree programs offered at California State College, Fullerton are listed on page 81 and are described in the appropriate section of this catalog under "College Curricula." Program descriptions and additional information are contained in the *Graduate Bulletin*, copies of which are available in the Office of Admissions and the Graduate Office.

Master's degrees in other areas are under consideration and will be announced when approved.

## GENERAL REQUIREMENTS FOR THE MASTER'S DEGREE

General requirements for the master's degree are a minimum of 30 semester units of approved coursework completed with a 3.0 (B) minimum grade-point average. The coursework should normally be completed within five years (see "Courses Over Five Years Old"). For specific requirements of particular programs, please see the descriptions elsewhere in this catalog.

1. No less than 24 shall be completed in residence.
2. No less than 15 shall be in graduate (500-level) courses.
3. No more than a total of six shall be in extension and/or transfer credit.
4. No more than six shall be allowed for a thesis, if a thesis is required.
5. Six shall be in related fields outside the department or concentration.

Some type of final evaluation, near the end of the student's work toward his master's degree, is required. It may be a thesis, a project, a comprehensive examination, or any combination of these.

Each student's program for a master's degree (including his eligibility, classified status, candidacy, and award of the degree) must be approved by an adviser and/or coordinator, school or department committee, and the Dean of Graduate Studies.

## STANDARDS FOR GRADUATE STUDY

Graduate study deals with more complex ideas and demands more sophisticated techniques, searching analysis, and creative thinking than undergraduate study. The research required is extensive in both primary and secondary sources and the quality of writing expected is high. The student is advised to consider these factors when deciding upon the amount of coursework to be undertaken during any one semester.

## STEPS IN THE MASTER'S DEGREE PROGRAM

(Also see "Graduate Policies and Procedures")

1. Admission to Graduate Standing: Unclassified
2. Declaration of Objective
3. Providing Transcripts
4. Taking Appropriate Tests
5. Informal Advisement
6. Admission to Graduate Standing: Classified (admission to a program and development of a Study Plan)
7. Advancement to Candidacy (after 12 units on Study Plan with a B average)
8. Successful Fulfillment of Study Plan Requirements

## **Master's Degree**

### **9. Final Steps**

- a. Request for check on completion of requirements (see following note)
- b. Thesis or project approval and arrangements for binding, microfilming and publication of the abstract (if appropriate)
- c. Written and/or oral examination (if appropriate)

(Note that master's degrees are awarded only in January and June with appropriate deadlines for each. Students completing requirements by the end of the first summer session and desiring certificates of completion must meet the same deadline for requesting a check on completion as June graduates.)

## **GRADUATE POLICIES AND PROCEDURES**

The following are in addition to other policies and procedures applying to both undergraduates and graduates described elsewhere in this catalog and in the appropriate class schedule. Students are advised also to consult the *Graduate Bulletin*.

Since all policies and procedures are subject to change, by appropriate college authority, students should consult class schedules and other official announcements for possible revision of policies and procedures stated herein.

### **Admission to Graduate Standing: Unclassified**

For admission with graduate standing as an unclassified graduate student, a student shall have completed a four-year college course and hold an acceptable baccalaureate degree from an accredited institution; or shall have completed equivalent academic preparation as determined by the appropriate college authorities.

Admission to a state college with graduate standing does not constitute admission to a graduate degree program. Scores on specified tests may be required and criteria for acceptability of undergraduate work are established by appropriate college authorities.

### **Admission to Graduate Standing: Classified**

A student who has been admitted to a state college in unclassified graduate status may, upon application, be admitted to a graduate degree program of the college as a classified graduate student if he satisfactorily meets the professional, personal, scholastic, and other standards for graduate study, including qualifying examinations, as the appropriate college authorities may prescribe. Only those applicants who show promise of success and fitness will be admitted to graduate degree programs, and only those who continue to demonstrate a satisfactory level of scholastic competence and fitness, as determined by the appropriate college authorities, shall be eligible to continue in such programs. Students whose performance is judged to be unsatisfactory by the authorities of the college may be required to withdraw from all graduate degree curricula offered by the college.

### **Admission From Nonaccredited Schools**

A student who is a graduate of a nonaccredited school must apply for admission as an undergraduate to complete requirements for a bachelor's degree from this institution. However, once admitted, a student in this category who gives evidence of unusual promise and superior background may petition the school or department concerned for reclassification as an unclassified graduate student, and if the petition is granted he may then proceed in the graduate program.

### **Applicability of Catalog and Graduate Bulletin Regulations**

A student remaining in continuous attendance in regular sessions and continuing in the same curriculum may elect to meet the degree requirements in effect either at the time of his classification or at the time of the completion of degree require-



ments, except that substitutions for discontinued courses may be authorized or required by the proper college authorities.

### **Continuous Enrollment**

A graduate student with a graduate degree objective is expected to maintain continuous enrollment in the college (summer sessions excluded) until award of the degree. If a student pursuing an advanced degree finds it impossible to attend during a certain semester, and is not eligible for a leave of absence, as detailed elsewhere in this catalog, he may request permission to register in Graduate Studies 700, a pass/no pass course with one unit of credit, which does not require class attendance. Registration in Graduate Studies 700 will normally be restricted to graduate students who have been classified or who are in a prescribed prerequisite program for a specific degree. A student may not register in Graduate Studies 700 for a third consecutive semester.

A graduate student who fails to register has severed his connection with the college.

### **Applicability of Courses Taken During Summer Sessions**

California State College, Fullerton normally conducts two six-week summer sessions. Appropriate courses taken during the summer sessions may be applied to a graduate degree program, providing the courses are approved *in advance* by the proper college authorities. Since the funding of graduate work during the summer months does not include the necessary advisement and supervision, appropriate advisers and committees may not be available.

It should be noted that enrollment in a summer session does not constitute admission to the college (matriculation) and that any student desiring a master's degree must be admitted to a regular semester (fall or spring) and is expected to be enrolled continuously until award of the degree (see "Continuous Enrollment"). Under present circumstances, master's degrees are not awarded in September, but only in January and June.

### **Grade-Point Average Standards**

The required GPA for *admission* to a master's degree program (classified status) varies with the department or school. Consult school or department descriptions of programs elsewhere in this catalog and in the *Graduate Bulletin*. However, a student must have earned a 3.0 average in all postbaccalaureate coursework taken at this college plus such transfer courses as are applied to his study plan. Exception to this rule may be granted by a school or department in response to a student petition only if it is evident that courses whose grades are not to be computed in the GPA are inapplicable and inappropriate to the degree program.

The 30 semester units of approved coursework required for the degree must be completed with a 3.0 (B) minimum grade-point average. If a student approaches the completion of the degree requirements with less than a 3.0 average, he may request a change in his study plan to add no more than six units of coursework in order to achieve at least a 3.0 average (see "Changes in Study Plan," as follows). If a student's average at any time falls below such a level that it cannot be raised to a 3.0 within the prescribed limits of coursework, he has in effect withdrawn himself from his master's program.

### **Tests Required for Admission to Master's Degree Programs**

Many of the master's degree programs require the student to take certain tests, usually some part of the Graduate Record Examination, before he can be considered for classified status. See program descriptions in this catalog for the types of tests required. The GRE tests are nationally administered and are given only a few times a year on specified dates. A current list of these dates is available at the Office of Counseling and Testing, school and department offices. The student

## **Master's Degree**

must make written application for the tests on a form available at the above offices which must be submitted by the applicable deadline. Since test results are measured against those of students who normally take the tests in their senior year and since they are required before the student can be admitted to a degree program (that is, become a classified student), the taking of the tests should not be deferred.

### **Limitation on Preclassification Coursework**

No more than nine units of postgraduate work taken at California State College, Fullerton prior to classified status may be applied to a student's master's degree study plan. Any acceptable transfer work is excluded from the nine units permitted. Students who receive postgraduate credit for courses taken during their final semester as a senior may accumulate as many as 12 units.

### **Inapplicable Courses**

Courses numbered 100 to 299 and in the 700 series cannot be applied toward a master's degree. Courses numbered 300 to 399 do not give graduate credit unless included on an approved graduate study plan.

Workshop, extension, and institute coursework offered either by this college or other colleges or universities is not acceptable on a master's degree study plan, unless it is so stipulated by the appropriate committee of the school or department concerned at this college. Any such courses offered by other institutions, but which are not acceptable for their own graduate degrees, may not be accepted by this college for a graduate degree.

Also see the sections following on "CR, S, P, or NP Grades," and "Courses Over Five Years Old."

### **CR, S, P, or NP Grades**

Any course taken at this college with a grade of CR, S, P, NP, or similar, cannot be accepted on a master's degree study plan.

A course taken at another college or university with a grade of CR, P, S, or similar, cannot be accepted on a master's degree study plan unless such a course with such a grade is acceptable at that college or university for a graduate degree.

### **Declassification**

Graduate students in classified graduate status shall be declassified upon the recommendation of the school and/or department, reverting to unclassified status, when one or more of the following conditions exist:

1. The student fails to maintain the grade-point average required in the master's degree program.
2. The student's professional performance is judged to be unsatisfactory.
3. The student fails to petition for an extension of the time limit.
4. The student's request for declassification is approved by his graduate committee.

### **Courses Over Five Years Old**

All coursework on the master's degree study plan should normally be completed within five years, except that, upon petition to the Graduate Office, two additional years may be allowed. The college, at its option, may further extend the time for students who pass a comprehensive examination in the relevant course. Requests to take such comprehensive examinations should be made to school or department graduate studies committees.

When an examination is administered, a report of successful completion will be made to the Dean of Graduate Studies. The grade received on the original course will be used on the master's degree study plan, rather than the CR grade used for challenge examinations.



The following shows the dates of expiration of courses according to the five year limitation:

<i>Courses taken in</i>	<i>Will expire in</i>
1965	1970
1966	1971
1967	1972
1968	1973
1969	1974
1970	1975
1971	1976

The five-year period is computed as being the time between the actual date of completion of the earliest course and the month the degree is granted.

### **Changes in Study Plan**

The student must complete the courses shown on his approved study plan on file in the Graduate Office and in the school or department office with at least a 3.0 (B) GPA. If a student wishes to make a change in his study plan, he should file the appropriate form (copies available in the Graduate Office, schools and departments) in the school or department of his master's degree prior to registration. The recommendation for a change must be signed by his adviser. No course for which a grade has been assigned may be removed from a study plan.

### **Minimum Full-Time Load**

Ordinarily, nine units of coursework a semester shall constitute a minimum full-time program for graduate students, provided at least three units are in 500-level or higher courses.

### **Maximum Unit Load**

Twelve units is considered to be a maximum load for graduate students, but, on the approval of an adviser, in exceptional cases, a student may take more.

### **Theses and Projects**

When a thesis is required, the approved original bound copy and a microfilm of it must be deposited in the college Library. An abstract, of not more than 150 words, must accompany the thesis, and will be published in the journal, *Master's Abstracts*. Arrangements for the binding, microfilming and publication of the abstract must be completed by the last day of classes of the semester in which the degree is to be granted and are made through the college Foundation Office. The current fee for microfilming, publication of the abstract, and the archival copy is \$18 (for theses with more than 240 pages there is an additional charge). The fee for binding is \$7.50.

When a project is required, it will be filed with the school or department of the degree program. Some record of the project, or the project itself, is preserved in the school or department and, when appropriate, in the college Library. When the school or department recommends, a project or its written record may be treated as a thesis.

The thesis and where appropriate the project must conform in matters of style and format to the rules in "Thesis Procedures and Regulations," duplicated instructions available in school or department offices, the Graduate Office, and the Library Reference Room. Since adherence to these rules must be checked and approved, and valuable assistance can be given with problems associated with illustrations, etc., students are advised to consult the Library adviser (in the Reference Room) well in advance of the final typing of the thesis. In addition, schools and departments have adopted particular form books and/or style sheets, which are

## **Master's Degree**

to be followed in matters of documentation and bibliography (consult Graduate Office, or appropriate school or department).

It is the student's responsibility to become acquainted with the appropriate rules and regulations and to make all necessary arrangements for the typing of the thesis, including instruction of the typist, if other than himself. Adequate time should be allowed for reading and criticism by the adviser, the committee members, and the librarian, for revisions, as needed, and for completion of the final edition of the thesis, including approvals.

The deadline for submission of the completed thesis to the adviser and committee is six weeks in advance of the last day of classes of the semester in which the student hopes to be awarded the degree, unless other arrangements are made with the school or department. The deadline for depositing the approved original copy of the thesis in the college Foundation Office and making the arrangements for binding, microfilming and publication of the abstract is the last day of classes of the semester. If a student's program requires a thesis, or if the project has been determined to be regarded as a thesis, the master's degree cannot be awarded unless the notification that the student has completed this final step is received by the Dean of Graduate Studies.

### **Graduate Assistantships, Fellowships, and Financial Aids**

There are a limited number of appointments as graduate assistants available to outstanding graduate students who are working in graduate degree programs. These may pay up to \$1,500 per semester. If interested, consult the chairman of the department in which degree study is being taken. Teaching fellowships are not currently available.

The State of California each year awards a certain number of graduate fellowships (payment of fees only). Qualified students who are residents of California may make application for these through the Financial Aid Office.

For information concerning other financial aids and part-time placement services; see pages 43 and 41, respectively.

### **Waiver of Nonresident Tuition Fee**

Worthy graduate students who are not residents of California may, under certain circumstances, obtain a waiver of the nonresident tuition fee. Forms for this purpose are available at the Admissions and Records Office.

### **International Study**

The college participates in the California State Colleges' program of study abroad. Under this program, limited studies taken at designated foreign universities, when arranged in advance, may be applied toward the requirements of a degree awarded by Cal State Fullerton. It is important that plans be completed several months before starting such a program. For details consult the foreign student adviser.

### **Second Master's Degree**

A graduate student desiring to work for a second master's degree from Cal State Fullerton must request the school or department concerned and the Graduate Council for permission to enter a curriculum leading to the second master's degree. If the request is granted the student must as a minimum satisfy all pre-requisites and all requirements of the new degree program. Approval of candidacy for the second degree will be given only after the first degree has been awarded.

### **Postgraduate Credit for Seniors**

Students in the last semester of their senior year may petition on a form available in the Office of Admissions and Records to receive postgraduate credit for such current course work as is not required for the bachelor's degree. The applicability



of such coursework to a master's degree program must be determined by separate action by the appropriate school or department. Usually the student must have attained graduate standing and applied for classified status before this latter action is accomplished.

### ***Enrollment in 500-Level Courses by Seniors***

A senior may take a 500-level course if he is within nine units of completion of graduation requirements and with the specific approval of the chairman of the department or dean of the school in which the course is offered and by the chairman or dean of the student's major department or school. Postgraduate credit and applicability of such coursework to a master's degree is determined as indicated under "Postgraduate Credit for Seniors."

A senior who is not within nine units of graduation may take a 500-level course only if in addition to the approval of the appropriate chairmen or deans he also has a minimum GPA of 3.5 in the field or fields of his intended graduate program and of 3.25 overall. Under these circumstances, postgraduate credit may not be given for a 500-level course.





# COLLEGE CURRICULA

California State College, Fullerton offers the following baccalaureate degree programs which are described on the pages listed:

	Page		Page
B.A. American Studies	179	B.A. German	183
B.A. Anthropology	174	B.A. History	190
B.A. Art	89	B.A. Linguistics	161
B.A. Biological Science	173	B.A. Mathematics	191
B.A. Business Administration	108	B.A. Music	96
B.A. Chemistry	176	B.M. Music	98
B.A. Communications	180	B.A. Philosophy	188
B.A. Comparative Literature	181	B.S. Physical Education	192
B.A. Drama	100	B.A. Political Science	178
B.A. Earth Science	202	B.S. Social Science	193
B.A. Economics	111	B.A. Sociology	205
B.S. Engineering	145	B.A. Spanish	186
B.A. English	184		
B.A. Ethnic Studies	197		
B.A. French	182		

## COLLEGE CURRICULA

The following master's degree programs are offered:

	Page		Page
M.A. Anthropology	172	M.A. Geography	169
M.A. Art	91	M.A. German	183
M.A. Biology	174	M.A. History	190
M.B.A. Business Administration	111	M.S. Library Science	211
M.A. Chemistry	176	M.A. Linguistics	162
M.A. Communications	182	M.A. Mathematics	191
M.A. Drama	101	M.A. Music	99
M.A. Economics	116	M.S. Physical Education	192
M.S. Education (with emphasis in elementary education, read- ing, school administration, school counseling or spe- cial education)	135	M.A. Political Science	178
M.S. Engineering	149	M.A. Psychology	201
M.A. English	185	M.P.A. Public Administration	199
M.A. French	187	M.A. Social Science	194
		M.A. Sociology	204
		M.A. Spanish	186
		M.A. Speech	107

The college is accredited by the California State Board of Education for programs leading to the credentials listed under Teacher Education Courses on page 121.





# COLLEGE CURRICULA

California State College, Fullerton offers the following baccalaureate degree programs which are described on the pages listed:

	<i>Page</i>		<i>Page</i>
B.A. American Studies .....	159	B.A. German .....	186
B.A. Anthropology .....	171	B.A. History .....	190
B.A. Art .....	89	B.A. Linguistics .....	161
B.A. Biological Science .....	173	B.A. Mathematics .....	191
B.A. Business Administration .....	108	B.A. Music .....	96
B.A. Chemistry .....	176	B.M. Music .....	98
B.A. Communications .....	180	B.A. Philosophy .....	194
B.A. Comparative Literature .....	183	B.S. Physical Education .....	139
B.A. Drama .....	100	B.A. Physics .....	195
B.A. Earth Science .....	202	B.A. Political Science .....	198
B.A. Economics .....	115	B.A. Psychology .....	200
B.S. Engineering .....	145	B.A. Religious Studies .....	165
B.A. English .....	184	B.A. Russian Area Studies .....	166
B.A. Ethnic Studies .....	155	B.A. Sociology .....	205
B.A. French .....	186	B.A. Spanish .....	186
B.A. Geography .....	188	B.A. Speech .....	207

The following master's degree programs are offered:

	<i>Page</i>		<i>Page</i>
M.A. Anthropology .....	172	M.A. Geography .....	189
M.A. Art .....	93	M.A. German .....	188
M.A. Biology .....	174	M.A. History .....	190
M.B.A. Business Administration .....	111	M.S. Library Science .....	213
M.A. Chemistry .....	178	M.A. Linguistics .....	162
M.A. Communications .....	182	M.A. Mathematics .....	193
M.A. Drama .....	102	M.A. Music .....	99
M.A. Economics .....	116	M.S. Physical Education .....	141
M.S. Education (with emphasis in elementary education, read- ing, school administration, school counseling or spe- cial education) .....	135	M.A. Political Science .....	198
M.S. Engineering .....	149	M.A. Psychology .....	201
M.A. English .....	185	M.P.A. Public Administration .....	199
M.A. French .....	188	M.A. Social Sciences .....	166
		M.A. Sociology .....	206
		M.A. Spanish .....	188
		M.A. Speech .....	209

The college is accredited by the California State Board of Education for programs leading to the credentials listed under Teacher Education Curricula on page 122.





## STUDENT-TO-STUDENT TUTORIALS

This year the college will begin a program of experimentation with and development of "student-to-student tutorials." One of the fastest and profoundest ways to learn is to teach. The "student-to-student tutorial" will provide a formal way to encourage students to learn through teaching. It will expand significantly the opportunities for students to have meaningful experiences as teachers. At the same time, it greatly will increase the amount of tutoring available and will extend tutoring to all of the kinds of students who need and want tutorial assistance.

Students electing to be tutors not only will increase their mastery of particular subject matters but also will have practice in developing their communication, cooperation and interpersonal relationship skills. Most important, adult roles and jobs also involve a teaching function, and the tutorial experience provides an opportunity to develop techniques.

Each department will decide whether or not it wishes to offer student-to-student tutorials. Departments choosing to offer the student-to-student tutorial will follow the rules listed in the following course description.

The course number will be 196 or 496, and one to three units of credit can be given for each course.

# SPECIAL CURRICULAR COURSES

The student-to-student tutorial is a course or program of instruction in a subject matter or its equivalent. The tutor and his tutee or tutees will work in mutually advantageous ways by allowing all involved to study more carefully and thoroughly the materials presented in this specific course. One to three students may be tutored by the tutor unless the instructor decides that special circumstances warrant exceeding the usual maximum of three tutees. These hours of work are expected for each unit of credit, and this work may include, apart from contact hours with tutees, such other activities as: tutorial preparations, consulting with instructors, reporting, analysis and evaluation of the tutorial experiences, and participation in an all-college orientation and evaluation program for tutors. A maximum of three units can be taken each semester and nine units of any combination of 196 and 496 for an undergraduate program. This course must be taken as an elective and not counted toward general education, major or minor requirements. The course can be taken on a credit/no credit basis by the tutor. Requests for tutors must be initiated by tutees and can be initiated up until the official college date for dropping a class with a "W". Tutors electing to respond to such requests will receive credits at the end of the semester and can register in the course until the official college date for dropping a class with a "W". Both tutors and tutees must submit written reports, analyses and evaluations of their shared tutorial experiences, and both must participate in an all-college orientation program as well as in any conferences or critiques that the instructor of the course may require.

Further information can be obtained from the department in which the student is interested in student-to-student tutorials.

## GRADUATE STUDIES 700

A one-unit, pass/no pass course, which is designed to ensure continuous registration for those graduate students with an advanced degree objective who find that they are unable to enroll in regularly offered coursework, and who are not eligible for a leave of absence. This course does not require class attendance. Permission to register in Graduate Studies 700 must be given by appropriate college authorities. A student may not register in Graduate Studies 700 for a third consecutive semester.

Students are reminded that units in a 700-level course may not be applied toward fulfillment of requirements for an advanced degree.





## **STUDENT-TO-STUDENT TUTORIALS**

This year the college will begin a program of experimentation with and development of "student-to-student tutorials." One of the fastest and profoundest ways to learn is to teach. The "student-to-student tutorial" will provide a formal way to encourage students to learn through teaching. It will expand significantly the opportunities for students to have meaningful experiences as teachers. At the same time, it greatly will increase the amount of tutoring available and will extend tutoring to all of the kinds of students who need and want tutorial assistance.

Students electing to be tutors not only will increase their mastery of particular subject matters but also will have practice in developing their communication, cooperation and interpersonal relationship skills. Most important adult roles and jobs also involve a teaching dimension and the tutorial experience will provide opportunities to develop awareness of teaching problems and competence in teaching techniques.

Each department will decide whether or not it wishes to offer this course. Departments choosing to offer the student-to-student tutorial course will follow the rules listed in the following course description.

The course number will be 196 or 496, and one to three units of credit can be given for each course.

**Prerequisites:** A 3.0 or more grade-point average and/or consent of instructor and simultaneous enrollment in the course or previous enrollment in a similar course or its equivalent. The tutor and his tutee or tutees will work in mutually advantageous ways by allowing all involved to delve more carefully and thoroughly into the materials presented in this specific course. One to three students may be tutored by the tutor unless the instructor decides that special circumstances warrant increasing the usual maximum of three tutees. Three hours of work are expected for each unit of credit, and this work may include, apart from contact hours with tutees, such other activities as: tutorial preparations; consulting with instructors; reporting, analysis and evaluation of the tutorial experiences; and participation in an all-college orientation and evaluation program for tutors. A maximum of three units can be taken each semester and nine units of any combination of 196 and 496 for an undergraduate program. This course must be taken as an elective and not counted toward general education, major or minor requirements. The course can be taken on a credit/no credit basis by the tutor. Requests for tutors must be initiated by tutees and can be initiated up until the official college date for dropping a class with a "W". Tutors electing to respond to such requests will receive credits at the end of the semester and can register in the course until the official college date for dropping a class with a "W". Both tutors and tutees must submit written reports, analyses and evaluations of their shared tutorial experience, and both must participate in an all-college orientation program as well as in any conferences or critiques that the instructor of the course may require.

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# SCHOOL OF THE ARTS

Dean: J. Justin Gray

## DEPARTMENT OF ART

Professors: Dietz, Hein, Ivy, Olsen, Parrin, V. Smith

Associate Professors: Eriksen, Kercia, Samuelson (Chairman)

Assistant Professors: Chang, Curran, James, Lagerberg, Lyon, Mack, Myers, Stoksbury

Lecturers: Ewing, Frankel, Klobe, Pryor

The Department of Art offers a program which includes the several fields of art history, theory, and appreciation; drawing, painting, sculpture, design, and crafts; and art education. The broader objective of the program is to contribute to the intellectual, social, and creative development of the individual and to the development of citizenship in a democratic society. More specifically, the program provides opportunities for students: (1) to develop a knowledge and understanding of those general principles of visual organization and expression basic to all forms and fields of art; (2) to develop a critical appreciation and understanding of the art of all ages and of all cultures; (3) to use these general principles as a means to express more clearly their ideas, thoughts, and feelings in the creation of visual forms; (4) to develop those understandings and skills needed to pursue graduate studies in the field, to teach art in the schools, or to qualify for a position in business and industry as an art specialist.

Undergraduate curricula leading to the bachelor of arts degree have been designed to meet the specialized needs of the following groups: (1) students who wish to study art as an essential part of their personal and cultural development; (2) students seeking preprofessional preparation in art; (3) students planning to teach art at the secondary level who wish either a teaching major or minor in art; and (4) students planning to teach in the elementary schools who wish to have art as either an academic major or minor.

To qualify for a baccalaureate degree with a major in art, students must have a C average in all courses required for the degree. No credit toward the major will be allowed for specific major courses in which a grade of D is obtained. As is customary, the Art Department reserves the right to hold projects completed by a student for class credit for a period of three years.

### MAJOR IN ART FOR THE BACHELOR OF ARTS DEGREE

Five course programs have been planned to meet the individual needs and interests of students working for the bachelor of arts degree with a major in art.

In the development of specific course offerings which make up these programs, it has been the concern of the art faculty to see that each program contains: (1) basic courses in art history, theory, appreciation, and studio practice which have as their primary focus the study of those general principles of visual organization and expression underlying all fields of art; (2) more specialized courses which provide for adequate preparation in depth in a single field of art. The teaching of art history, theory, and criticism is not confined to courses bearing that title. Rather, each studio course involves theory as well as the practice of art, and each is part of its content the study and reference to related historical art forms, and has as part of its purpose the development of those critical abilities which are necessary to a valid evaluation and appreciation of the art expressions of man.

## THE ARTS





# SCHOOL OF THE ARTS

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Plan I provides for an emphasis in the area of art history, theory, and appreciation and is particularly recommended for those students who wish to pursue graduate studies in art history or museology.

Plan II is designed for those students who prefer a studio-type program with a preprofessional orientation and an area of specialization selected from the following: (1) design; (2) crafts; (3) drawing and painting, or (4) sculpture.

Plan III is for those students who wish to meet the requirements of the standard teaching credential with specialization in secondary teaching.

Plan IV is for those students who wish to meet the requirements of the standard teaching credential with specialization in elementary teaching.

Plan V is for those students who wish to meet the requirements for teaching in junior college.

All five plans require a minimum of 60 units in art or approved related courses with a minimum of 30 units of upper division in art except for Plan IV which requires a minimum of 45 units of art including a minimum of 27 units of upper division in art.

In addition to the requirements listed below for the major, students must meet the other college requirements for a bachelor of arts degree (see page 66). Students following Plans III and IV also must meet any specific requirements for the desired teaching credential (see section in catalog for School of Education). Graduate students who plan to meet the requirement for a standard teaching credential with specialization in secondary school teaching with a major in art must complete six units in art as approved by the major adviser on and beyond the specific course requirements listed in Plan III before they can be recommended by the Art Department for student teaching.

Students following Plan III divide their student teaching between two semesters and register for three units of credit each semester. (See prerequisites and course description for Art Education 749.)

## PLAN I: ART HISTORY EMPHASIS

Units

<i>Lower Division:</i> Art history 201A, B (6 units); 6 units of studio courses; approved electives (12 units) in art, anthropology, drama, foreign languages, history, literature, music or philosophy.....	24
<i>Upper Division:</i> Art history (36 units) including one course from each of the following six groups: 301-302; 411-412; 421-422; 431-432; 451-452; 461-462-471; Six courses in not more than three of the above groupings and three courses (9 units) of approved electives.....	36
Reading knowledge of one modern foreign language.....	

## PLAN II: STUDIO EMPHASIS

(Painting)

### Preparation for the Major

Art 201A,B, 107A,B, 207A,B, 117A,B,C, 103, 104 and 3 units of electives: recommended: Art 216A or 247A.....	30
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### The Major

6 units of upper division art history, Art 307A,B, 487A,B or C (6 units), 317A,B and 6 units of electives in art.....	30
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(Printmaking)

### Preparation for the Major

Art 201A,B, 107A,B, 247, 117A,B,C, 103, 104 and 6 units of electives.....	30
---------------------------------------------------------------------------	----



**The Major**
**Units**

6 units of upper division art history, Art 347A,B, 487D (6 units), 307A, 317A and 6 units of electives in art ..... 30

**(Sculpture)**
**Preparation for the Major**

Art 201A,B, 107A,B, 103, 104, 216A,B, 117A,B,C and 205A ..... 30

**The Major**

6 units of upper division art history, Art 316A,B, 486 (6 units), 336A,B and 6 units of electives in art ..... 30

**(Crafts)**
**Preparation for the Major**

Art 201A,B, 123A, 107A,B, 103, 104, 205A and 6 units selected from Art 106A, 205B, 216A or 117A,B,C ..... 30

**The Major—General Concentration**

6 units of upper division art history, Art 305A, 315A, 325A, 353A or B and 12 units selected from Art 305B, 315B, 325B, 338A, 316A, 485A, 485B, 485D, 485C or 483E ..... 30

**The Major—Jewelry/Metalsmithing Concentration**

6 units of upper division art history, Art 305A, 315A,B, 325A,B, 3 units selected from Art 305B, 353A, 353B or 338A and 6 units selected from Art 485A or 485C ..... 30

**The Major—Textile Concentration**

6 units of upper division art history, Art 353A,B, 483E (6 units) and 6 units of electives in art ..... 30

**(Ceramics)**
**Preparation for the Major**

Art 201A,B, 107A,B, 103, 104, 106A,B, 117A,B,C and 3 units of electives ..... 30

**The Major**

6 units of upper division art history, Art 306A,B, 485C (6 units), 406A,B and 6 units of electives in art ..... 30

**(Graphic Design)**
**Preparation for the Major**

Art 201A,B, 107A,B, 103, 104, 123A, 117A,C,D, 223A,B ..... 30

**The Major**

6 units of upper division art history, Art 323A,B, 483A (6 units), 338A, 317A, 363A, 3 units selected from Art 338B, 317B or 363B and 6 units of electives in art ..... 30

**(Illustration)**
**Preparation for the Major**

Art 201A,B, 107A,B, 103, 104, 123A,B, 117A,C,D, 223B ..... 30

## Art

### The Major

6 units of upper division art history, Art 363A,B, 483C (6 units), 317A,B, 323A, 3 units selected from Art 338A, 307A, 487B ..... 30

#### (Environmental Design)

### Preparation for the Major

Art 201A,B, 107A,B, 103, 104, 123A,B, and 6 units selected from Art 106A, 205A, 216A or 223A,B ..... 30

### The Major—Interior Space Planning Concentration

6 units of upper division art history, Art 313A,B, 483B (6 units), 453A,B, and 8 units selected from Art 333A, 353A, 353B, 483D or 363A ..... 30

### The Major—Product Design Concentration

6 units of upper division art history, Art 333A,B, 483C (6 units), 323A, 453A,B and 5 units of electives in art ..... 30

#### (Creative Photo)

### Preparation for the Major

Art 201A,B, 103, 104, 107A,B, 117A,C,D, 247A and 6 units of electives ..... 30

### The Major

6 units of upper division art history, Art. 338A, B, 489 (6 units), 347A and 9 units selected from 323A, 363A, 307A or 347B ..... 30

#### PLAN III: TEACHING EMPHASIS

##### (Secondary)

### Preparation for the Major

Art 201A,B, 107A,B, 123A or equivalent, 103, 104, 106A and 205A ..... 27

### The Major

9 units of upper division art history to include Art 411 or 412, 310A,B, 338A, 380, 6 units upper division to include Art 323A and 6 units of art electives ..... 33

**Fifth Year Credential Program:** In the five-year program for the standard teaching credential, secondary, to be eligible for consideration for student teaching by the art faculty, the student must meet the following requirements:

1. Be assigned by the Art Department Chairman to a faculty adviser in art concerned with teacher education.
2. Fulfill credential requirements listed in this catalog within the School Education for the curriculum on secondary school teacher education.
3. Meet requirements listed under Plan III, Teaching Emphasis (Secondary) for the bachelor's degree in art.
4. Complete Art 380 and Art Ed 441, Educ 311 and Educ 340 prior to enrollment in Art Ed 442.
5. Complete six additional upper division or graduate level units in art in an area of emphasis as part of the 30 units required beyond the bachelor's degree.
6. Obtain recommendation of the faculty adviser in art concerned with teacher education.
7. Submit a portfolio of art work to be evaluated by the art faculty.



# PLAN IV: TEACHING EMPHASIS

(Elementary)

## Preparation for the Major

6 units art history, Art 103, 104, 107B and 123A ..... 18

## The Major

Art 411 or 412, 310A, 323A, 380, 6 units upper-division crafts and 9  
units upper-division art electives ..... 27

# PLAN V: TEACHING EMPHASIS

(Junior College)

*Lower Division:* Same as Plan II.

*Upper Division:* Same as Plan II.

See Junior College Teacher Education Program, page 133.

## MINOR IN ART FOR THE BACHELOR OF ARTS DEGREE

A minimum of 24 units is required for a minor in art for the bachelor of arts degree of which a minimum of 10 units must be in upper division courses. Included in the program must be a basic course in each of the following areas: (1) art history and appreciation; (2) design; (3) drawing and painting; and (4) crafts. Those students planning to qualify for a standard teaching credential with specialization in elementary or secondary teaching and art for a minor must obtain approval from the Art Department for the courses selected to meet the upper division requirements for a minor in art.

## MASTER OF ARTS IN ART

The program of studies leading to the master of arts degree in art provides a balance of theory and practice for those who desire to teach art or wish to develop a sound basis for continued advanced work in this field. The program offers each student the opportunity to expand his intellectual and technical resources and to acquire greater richness and depth in terms of creative understanding and achievement in one of the following areas of concentration: (1) drawing and painting (including printmaking); (2) crafts (including ceramics); (3) design; and (4) sculpture.

## Prerequisites for the Program

Prerequisites to the program include:

- (1) an undergraduate major in art or 24 units of upper division art including at least 12 units of upper division study in the elected area of concentration with a GPA of 3.0 or better;
- (2) Portfolio Review—before any units may apply to the approved study program for the degree, the student must arrange for a faculty committee evaluation of the student's background, including a statement of purpose by the student, and review of creative work. Portfolio review dates are May 1 for the following fall semester, and December 1 for the following spring semester of each year. Arrangements may be made through the Art Office to meet these deadlines.

## Dance

### Program of Studies

The degree program requires 30 units of graduate study approved by the student's graduate committee of which 15 must be 500-level courses. The 30 units are distributed as follows:

	Units
1. 500-level courses in art	15-21
A. Core courses in art, history, philosophy, analysis and criticism	9
(1) Art 500 Graduate Seminar in Art (3 units)	
(2) Art 501 Graduate Seminar in Art History and Appreciation (6 units)	
(On the recommendation of the adviser, the student may substitute 3 units in Philosophy 311, Philosophy of Art, or a 400 number art history course as partial fulfillment of this requirement.)	
B. Coursework in the area of concentration selected from one of the following areas	6
(1) Drawing and painting	
(2) Crafts	
(3) Design	
(4) Sculpture	
C. Project or thesis	3-6
2. Additional courses	9-12
A. 500- and/or 400-level courses in art to extend the student's field in depth	6
B. 500-, 400- and/or 300-level courses either in courses outside the art department related to the student's special area of interest or in courses within the art department outside the area of concentration to expand the student's field in breadth	3-6
Total	30

All courses must be completed with a B average, and all courses in the area of concentration must be graded B or better. The Department of Art requires the candidate for the Master of Arts in Art degree to exhibit his or her project in the department upon completion of the Master of Arts in Art degree and the art faculty reserves the right to retain an example from the student's master's exhibit for the college collection.

For further information, consult the Department of Art.

Also see "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

## DEPARTMENT OF DANCE

Associate Professor: Kuni (Chairman)

Lecturers: Dougherty, Tait

The program of studies in the Department of Dance provides training in each of the related aspects of dance such as its history, theory, composition including space forming and choreography, and the technics of movement leading to dance performances and productions. The curriculum is designed in accordance with the following three objectives: (1) to prepare the student who wishes to enter dance as a profession, either in teaching, choreography, or performance; (2) to provide for the general college student the opportunity for a personal involvement in dance as an art form and as a basic movement experience; (3) to offer curricular experiences in dance for the student who is majoring in fields of study that are closely related to dance such as art, music and theatre.

A major in dance is not offered at this time. Refer to the Department of Theatre which offers both the B.A. and M.A. degrees with areas of concentration in dance.



## **DEPARTMENT OF MUSIC**

Professors: Gray,\* Kreter (Chairman), Landon, Lewis, Thorsen

Associate Professors: Fuszek, Karson, Michalsky, Reims

Assistant Professors: Chadwick, Charlton, Ellison, Kincaid, McCarty, Minor, Paul, Stewart, Unruh, Vaughan

Lecturers: Alexander, Cantrell

Lecturers (part time): Cartledge, Cook, Fiske, Shaffer, Tall

Lecturers in applied music (part time): Barstow (Violin, Viola), Benditzky (Violoncello), Bloch (Clarinet), Chassman (Violin, Viola), Caudill (String Bass), Cook (Piano), Fleming (Trombone-Baritone), Goodwin (Percussion), Grauer (String Bass), Guarneri (Trumpet), Henderson (French Horn), Howard (Flute), Imry (Guitar), Kemalyan (Voice), Lustgarten (Cello), McNab (Trumpet), Muggeridge (Oboe), Nowlin (Bassoon), Pittel (Saxophone), Remsen (Harp), Riggs (Voice), Shaffer (Organ), Stockhammer (Flute), Voorhies (Piano).

The Department of Music offers courses in music for both majors and non-majors. The fundamental purpose of the music major curriculum leading toward the baccalaureate degree is to provide the necessary training in each of the related aspects of music such as its history and literature, theoretical studies, and musical performance. Such a program of studies is based on the need to provide serious students with a core curriculum which will prepare the individual in such areas as (a) the knowledge of the history and relationships of music as an art form, (b) a comprehensive and analytical understanding of musical literature, (c) a working knowledge of music theory and structure, (d) a high degree of competence in a performing field, and (e) a specialization within the major.

The music program is designed to educate:

1. Students in general, in terms of composite minors, music minors, or broad offerings in the humanities or liberal arts.
2. Students preparing to teach in the elementary and/or secondary schools, with a major field concentration in music (special music teachers).
3. Students preparing to teach in the elementary schools with a major field concentration in music (classroom teachers).
4. Students preparing to teach in the junior colleges and four-year colleges with a major field concentration in music.
5. Students other than music majors preparing to teach as classroom teachers in the elementary schools.
6. Students seeking undergraduate preparation for other vocations in music, normally requiring advanced training.

### **REQUIREMENTS OF THE DEPARTMENT OF MUSIC**

1. Placement examinations in basic piano, voice, theory and performance will be given to all music majors at the time of entrance to the college. Demonstrable proficiency in the piano placement examination will satisfy the requirement in piano proficiency (see 5c following). Students deficient in any of the above areas will be expected to take additional work as recommended.
2. Music majors will be expected to declare a principal performance area with the approval of the faculty adviser. It will be expected that each student will demonstrate satisfactory progress within this principal performance area, culminating in the successful presentation of a senior recital before he may be approved for graduation. The recital requirement may be fulfilled by performance, conducting, composition or lecture, or any combination of these.
3. All music majors are required to participate in a major performance group (band, orchestra or chorus) each semester of the regular school year (mini-

\* College administrative officer.

mum: B.A. six semesters, B.M. eight semesters). Students who declare wind or percussion as their principal performance area must register for band (or orchestra if designated by the instrumental coordinator); string majors must register for orchestra; and voice majors must register for chorus. A music major whose principal performance area is piano or organ shall be assigned to an appropriate major performance group by his faculty adviser.

4. All music majors whose principal performance area is an orchestral instrument or piano are expected to take part in small ensembles for a minimum of two semesters.
5. The principal performance area for the major in music requires work in applied music, as follows:
  - a. Piano, voice and instrumental majors must complete a minimum of eight semesters (six semesters B.A.) of applied music in the principal performance area.
  - b. Choral or instrumental conducting majors must complete a minimum of eight semesters (six semesters B.A.) of applied music in the principal performance area, in addition to a minimum of six units in conducting.
  - c. All music majors will take the piano proficiency examination during the junior year. This requirement may also be satisfied by successful completion of Music 282B.
  - d. All music majors will present a recital in the senior year (as described in 2 above).
6. Senior transfer students entering California State College, Fullerton with a major in music, or graduate students in music entering to complete credential requirements are expected to complete a minimum of one semester of successful upper division work in music before they may be approved for directed teaching. Required courses and competencies expected of all the college music majors must be satisfied before endorsement by the faculty committee for acceptance in the credential program.
7. All credential candidates are required to pass functional examinations in piano and voice before being approved for graduation. This requirement may also be satisfied by successful completion of Music 382 and 283B.
8. All music majors will be expected to attend a weekly departmental organization class (Music 400) each semester of enrollment (maximum of eight semesters).
9. Any exception to a departmental requirement must be made by petition.

### MUSIC DEGREE PROGRAMS

The Department of Music offers a variety of courses and programs leading to baccalaureate and graduate degrees in teaching and the professions. The baccalaureate degree may be earned in two degree patterns. Within these patterns, a student will normally pursue an emphasis in applied music, composition, conducting, music education or music history, theory and literature.

### BACHELOR OF ARTS IN MUSIC

This program prepares students in (1) music history, theory and literature or (2) music for elementary classroom teachers.

The music history, theory and literature emphasis is a general degree, providing suitable preparation for advanced degrees in theory, literature or musicology and basic preparation for advanced study in other fields, such as musical acoustics, music therapy, ethnomusicology, library science in music and music in industry and recreation.

The emphasis for classroom teaching is not designed for the music specialist in public schools (see Bachelor of Music). Additional course work would be required if this emphasis is used as preparation for most graduate degrees in music.



The Bachelor of Arts in Music shall consist of no fewer than 45 units, of which at least 23 shall be in the upper division. The following minimum requirements are basic to this degree objective:

**Music Requirements:**

**Lower Division**

	Units
Music Theory (Mu 111a, b: 211).....	9
Music Literature (Mu 251).....	3
Applied Techniques (Ensemble 4, principal performance area 4).....	8
	<hr/> 20

**Upper Division**

Music Theory (Mu 316, 320, 321a, 322a).....	9
Music History and Literature (Mu 351a, b).....	6
Applied Techniques (Ensemble 2, principal performance area 2).....	4
Specialization in the major.....	6

<i>Music History and Literature</i>		<i>Classroom Teaching</i>	
<i>Emphasis</i>	<i>Units</i>	<i>Emphasis</i>	<i>Units</i>
Elective courses in music history and literature .....	6	Mu 333 .....	3
		Mu 281e .....	2
		Upper division elective .....	1
			<hr/> 25
<b>Total</b> .....			45

**Allied Requirements:**

**Music History, Theory and Literature Emphasis**

- |                                                                                            |    |
|--------------------------------------------------------------------------------------------|----|
| 1. An academic minor, with approval of the faculty adviser.....                            | 20 |
| 2. Foreign language, preferably German, to be satisfied by one of the following:           |    |
| (a) four years study of foreign language at the secondary school level,                    |    |
| (b) a pass examination given by the Department of Foreign Languages and Literatures, or    |    |
| (c) completion of the second semester of the beginning college course in foreign language. |    |

**Classroom Teacher Emphasis**

1. Diversified studies in academic areas appropriate for classroom teachers such as English, literature, mathematics, science, art, drama, social sciences, foreign language, and physical education and health by consultation with the major and professional advisers.
2. A course in diction or foreign language. (May be satisfied by a minimum of one semester of foreign language or Mu 390A, B, Diction for Singers).
3. Elementary credential candidates majoring in music (B.A. in Music) are required to complete two units of Mu 499 in the semester immediately preceding Student Teaching and to take Mu 599 for one unit concurrently with Student Teaching. Normally, both courses will be taken in the student's graduate year.
4. Completion of Educ 311, Educ 331 and admittance to Teacher Education.

# Music

## BACHELOR OF MUSIC

This degree program is for the development of persons specializing in performance and applied music techniques.\*

The music major, professional degree program, shall consist of no fewer than 64 semester units, of which at least 32 shall be in the upper division. The following minimum requirements are basic to this degree objective:

Lower Division		Units
Music Theory (Mu 111a, b, 211)	.....	9
Music Literature (Mu 251)	.....	3
Applied Techniques	.....	12
<i>Performance Emphasis</i>		
Principal Performance Area	8	
Major Performance Ensemble	4	
<i>Music Education Emphasis</i>		
Principal Performance Area	4	
Voice Class	2	
Piano Class	2	
Major Performance Ensemble	4	
Total	.....	24
Upper Division		Units
Music Theory (Mu 316, 320, 321A, 322A, 323A)	.....	11
Music History and Literature (Mu 351A, B)	.....	6
Specialization in the Major	.....	23
<i>Performance Emphasis</i>		
Principal Performance Area	8	
Major Performance Ensemble	4	
Senior Recital (Mu 498)	1	
Electives	10	
	23	
<i>Music Education Emphasis</i>		
Principal Performance Area	4	
Major Performance Ensemble	4	
Instruments Classes	8	
Conducting	6	
Senior Recital (Mu 498)	1	
		23
<i>Composition Emphasis</i>		
Principal Performance Area	4	
Major Performance Ensemble	4	
Composition (Mu 322B, 370, 371)	6	
Senior Recital (Mu 498)	1	
Electives	8	
	23	
Total	.....	40
Total, lower and upper division	.....	64

## MINOR IN MUSIC

The minor in music may be used as an appropriate area of study by persons whose majors are in other fields, or may be used to satisfy minor field requirements for elementary or secondary teaching credentials. A maximum of 12 units from

\* This program also can prepare the student for a teaching career as a music specialist in the public elementary or secondary schools and junior colleges of California. The music education emphasis is a five year program leading toward the Standard Teaching Credential, Secondary School Teaching Specialization. Holders of this credential, secondary specialization, may teach music in either or both secondary and elementary public schools of California. For complete professional education requirements, see School of Education section. In the post-graduate year, students must complete the music education techniques block (Mu Ed 441, 442, 443 and 449) before admission to student teaching.



the lower division may be included in work counted toward the music minor. The music minor requires a minimum preparation of 20 units.

**Composite of Lower Division and Upper Division**

**Units**

Theory of Music (selected from Mu 101, 111A,B, 211A,B or any 300- or 400-level theory classes for which student is qualified).....	6
Music History and Literature (Mu 100, 251, 350 or courses at the 400- or 500-level for which student is qualified).....	5-6
Applied Techniques (including ensemble, conducting, piano or voice, orchestral instruments, and principal instrument or voice).....	8-9
Note: Students expecting to use the minor for teaching must complete four units (two courses) of Mu 281 a-e, Orchestral Instruments and a minimum of two units in an ensemble appropriate to their area of specialization.	
Total .....	20

**MASTER OF ARTS IN MUSIC**

The program of studies leading to the Master of Arts in Music provides advanced studies in breadth as well as in an area of graduate specialization. The program is further intended to provide advanced course work with a suitable balance in such music studies as theory, composition, history, literature and advanced applied techniques. There are suitable graduate specializations in the areas of history and literature of music; advanced applied techniques; theory-composition; and music education.

The Master of Arts in Music is especially designed for teachers and supervisors of music; persons intending to specialize in applied fields in the pursuit of occupational goals; individuals preparing for college teaching; and persons intending to pursue advanced degrees beyond the master's level.

**Prerequisites for Admission to the Program**

The student must have a baccalaureate degree with a major in music (or the equivalent of a major, i.e., 24 upper division courses in music). Opportunity is given the student to remove deficiencies by taking certain prescribed courses. Such courses cannot be applied to the master's degree program. The student must also take the aptitude and advanced music tests of the Graduate Record Examination and pass the graduate music placement-proficiency examination.

**Requirements for the Degree**

The degree program requires 30 units of graduate study, no more than nine of which shall be outside the field of music, and at least 15 of which must be in 500-level courses in the major. The student will take Mu 500 (Graduate Studies in Music, two units) early in his program, and must include at least four units in history and literature of music, four in advanced techniques, two in theory composition, and an added six units in one of the above, or in music education, as an area of specialization. A thesis or project is required, for which three units may be granted. In addition, each program will include at least six units of study outside the department or area of specialization as approved by the graduate committee. Each program is individually designed in conference with the adviser.

For further information, consult the Department of Music.

Also see "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

**FEES FOR APPLIED MUSIC**

Studio lesson fee, half-hour lessons (one unit) and examination, per lesson, \$1 to \$10.

## **DEPARTMENT OF THEATRE**

Professor: Young

Associate Professors: Duerr, Henry, Keller (Chairman), Zeltzer \*

Assistant Professors: Cavan, Dieb, Ellmore, Laga, Lollich, Mee, Odle, Pickering, Spies, Taylor, VanderHoek

The Department of Theatre program includes the several fields of playwriting, oral interpretation, acting-directing, technical theatre, theatre history and theory, radio-television and dance. Specifically, the course work is arranged to provide opportunities for students (1) to develop an appreciation for the theatre; (2) to become aware, as audience or participants of the shaping force of the theatre in society; (3) to improve the understandings and skills necessary for work in the theatre as a profession; (4) to prepare for teaching theatre; and (5) to pursue graduate studies.

Any course in which the student receives less than C cannot be credited toward the major in drama. In addition to the course requirements, all students majoring in drama must participate in the casts or crews for a minimum of eight theatre productions, assignment to be determined by area emphasis, in consultation with the adviser.

### **BACHELOR OF ARTS IN DRAMA**

Four course programs have been planned to meet the individual needs and interests of students working for the bachelor of arts degree with a major in drama.

Plan I is for those who wish to study theatre as a cultural contribution or who wish to pursue graduate degrees in theatre with emphasis in theatre history and theory. It is strongly recommended that students electing this plan support the major with approved electives from art, theatre, music, foreign languages, literature, philosophy, or speech.

Plan II is designed to develop the necessary competency for pursuing theatre as a profession, or for pursuing graduate degrees in theatre with an emphasis in an area of concentration other than history of the theatre. Areas of concentration are: playwriting; acting-directing; interpretation; radio-television, technical theatre and dance.

Plan III meets the requirements of the standard teaching credential with specialization in elementary teaching.

Plan IV meets the requirements of the standard teaching credential with specialization in secondary or junior college teaching. A minor is required and will be selected with the aid of the departmental adviser.

All four plans require a minimum of 36 units in theatre with a minimum of 24 units of upper division in theatre.

In addition to the requirements listed below for the major, students must meet the other college requirements for a bachelor of arts degree. Students following Plans III and IV also must meet any specific requirements for the desired teaching credential (see section in catalog for School of Education). Graduate students who plan to meet the requirements for a standard teaching credential with specialization in secondary teaching and a major in drama must complete or be enrolled in six units in theatre as approved by the major adviser beyond the specific course requirements listed in Plan IV before they can be recommended by the Theatre Department for student teaching.

### **PLAN I: THEATRE HISTORY AND THEORY EMPHASIS**

*Lower Division:* Acting or stage movement, stagecraft, costume and/or makeup, oral interpretation.

\* College administrative officer.



*Upper Division:* Theatre 370A or B, Fundamentals of Directing (3); Theatre 473A, B, World Drama (6); Theatre 457A, B, History of the Theatre (6); Theatre 477, Contemporary Critical Techniques (3); Theatre 472, American Theatre (3); electives (3 units)..... 24

## PLAN II: PROFESSIONAL EMPHASIS IN AN AREA OF CONCENTRATION

*Lower Division:* Same as in Plan I, with exception of technical theatre.

*Upper Division:* In one of the following areas of concentration:

**Playwriting**—Theatre 364, Seminar in Playwriting (6), or Theatre 364 (3) and Theatre 383, TV Writing (3); Theatre 468A or B, Experimental Theatre (3); Theatre 370A, B, Fundamentals of Directing (6); Theatre 475A, B, History of the Theatre (6); Theatre 473A, B, World Drama (6); Theatre 477, Contemporary Critical Techniques (3)..... 30

**Oral Interpretation**—Theatre 311, Oral Interpretation (3); Theatre 314A, B, Reading Theatre (6); Theatre 411A, B, C, Oral Interpretation of Prose, Poetry, Drama (9); Theatre 475A, B, History of Theatre (6); electives, six upper-division units selected from the following courses: Theatre 386, Stage Lighting; Theatre 472, American Theatre; Theatre 473A, B, World Drama; Theatre 477, Senior Seminar in Contemporary Critical Techniques..... 30

The major in theatre with an emphasis in oral interpretation requires a minor consisting of 21 units in comparative literature or English and completion of 11 units in supportive courses from related areas such as art, anthropology, comparative literature, English literature, linguistics, speech, philosophy to be selected in consultation with the student's adviser.

**Acting-Directing**—Theatre 370A, B, Fundamentals of Directing (6); Theatre 363A, B, Intermediate Acting, or Theatre 470A, B, Directing (6); Theatre 473A, B, World Drama (6); Theatre 475A, B, History of the Theatre (6); Dance 374, Dance (2-4); Theatre 468A, B, Experimental Theatre or Theatre 463A, B, Advanced Acting (6)..... 32-34

**Radio-Television**—Theatre 241, Voice Production for the Actor (2); Theatre 370A, B, Fundamentals of Directing (6); Theatre 380, Introduction to Radio and Television (3); Theatre 381, Radio and Television Announcing (3); Theatre 383, Television Writing (3); Theatre 480, Radio and Television Production (3); Theatre 475A, B, History of Theatre (6); collateral requirements in Communications Department (3); six units chosen from advanced courses in directing, acting or technical theatre..... 35

**Dance**—Dance 374A, B, Dance Theatre and Production (4); Theatre 377A or B, Stage Costuming (2); Theatre 377A or B, Costuming Lab (1); Theatre 370A, Fundamentals of Directing (3); Theatre 376A, Stagecraft (2); Theatre 376A, Stagecraft Lab (1); Theatre 363A, Intermediate Acting (3); Theatre 473A, B, World Drama (6); Dance 474, Special Studies in Dance (2); Theatre 475A, B, History of the Theatre (6)..... 30

**Technical Theatre**—*Lower Division:* Theatre 276A, B, Beginning Stagecraft (4); Theatre 276A, B, Stagecraft Lab (2); Theatre 285A, Theatre Makeup (2); Theatre 263A, Beginning Acting or Theatre 211, Oral Interpretation (3); Theatre 277, Costume Fundamentals (2); Theatre 277, Costuming Lab (1); or Theatre 286, Design for Theatre (3)..... 14

*Upper Division:* Theatre 376A, B, Advanced Stagecraft (4); Theatre 376A, B, Stagecraft Lab (2); Theatre 377A and/or B, Stage Costuming (2-4); Theatre 377A and/or B, Costume Lab (1-2 units); Theatre 370A, Fundamentals of Directing (3); Theatre 475A, B, History of Theatre (6); Theatre 386, Stage Lighting (3); Theatre 486A, Advanced Stage Lighting

(3) or Theatre 450, Theatre Management (3); Theatre 488A and/or B, Advanced Scene Design (3-6); Theatre 480, Radio and Television Production (3); one semester of upper division electives in tech (3)..... 33-39

### PLAN III: TEACHING EMPHASIS

#### (Elementary)

*Lower Division:* Theatre 211, Oral Interpretation (3); Theatre 263A or B, Beginning Acting (3); Theatre 276A or B, Beginning Stagecraft (2); Theatre 276A or B, Stagecraft Lab (1); Theatre 277, Costume Fundamentals (2); Theatre 277, Costume Lab (1); Theatre 285A, Theatrical Makeup (2); Theatre 286, Design for Theatre (3)..... 17

*Upper Division:* Theatre 311, Oral Interpretation (3); Theatre 314, Reading Theatre (3); Theatre 370A, B, Fundamentals of Directing (6); Dance 374, Dance Theatre and Production (2); Theatre 402, Dramatic Activities for Children (3); Theatre 403, Children's Theatre (3); Theatre 475, History of Theatre (3); Rehearsal and Performance, Children's Theatre section, Theatre 478A or B (1)..... 24

### PLAN IV: TEACHING EMPHASIS

#### (Secondary or Junior College)

*Lower Division:* Theatre 211, Oral Interpretation (3); Theatre 263A or B, Beginning Acting (3); Theatre 276A or B, Beginning Stagecraft (2); Theatre 276A or B, Stagecraft Lab (1); Theatre 277, Costume Fundamentals (2); Theatre 277, Costume Lab (1); Theatre 285A, Theatrical Makeup (2 units); Theatre 286, Design for Theatre (3)..... 17

*Upper Division:* Theatre 370A, B, Fundamentals of Directing (6); Theatre 386, Stage Lighting (3); Theatre 450, Theatre Management (3); Theatre 472, American Theatre (3); Theatre 473A, B, World Drama (6); Theatre 475A, B, History of Theatre (6)..... 27

### MINOR IN DRAMA

The minor in theatre consists of 23 units, 12 of which must be in upper division.

*Lower Division:* Theatre 211, Oral Interpretation (3); Theatre 263A or B, Beginning Acting (3); Theatre 276A or B, Beginning Stagecraft (2); Theatre 276A or B, Stagecraft Lab (1); Theatre 285A, Theatrical Makeup (2)..... 11

*Upper Division:* Theatre 314, Reading Theatre (3) Theatre 370A, Fundamentals of Directing (3); Theatre 473A or B, World Drama (3); Theatre 475A or B, History of Theatre (3 units)..... 12

Candidates for the secondary teaching credential who wish to minor in theatre must obtain approval from the Theatre Department. Students minoring in theatre must participate in the casts or crews for a minimum of four theatre productions. Students must also enroll for Theatre Education 442, Teaching Theatre in the Secondary School (2).

### MASTER OF ARTS IN DRAMA

The Master of Arts degree in drama is designed to provide a program of coordinated graduate studies built on the framework of the undergraduate preparation; to provide added incentive for intellectual growth reflected in improvement in teaching and professional recognition; and to provide a sound basis for continued graduate study in the field of theatre. The student is expected to demonstrate a high degree of intellectual and creative competence and to demonstrate mastery of one of the areas of emphasis in theatre (1) theatre history, (2) dramatic



literature and criticism, (3) acting and directing, (4) playwriting, (5) technical theatre, (6) oral interpretation, (7) radio and television, (8) dance, (9) children's theatre.

**Prerequisites**

In addition to the college requirements, students admitted to this program must have earned 24 upper division units in theatre. Students will complete an oral interview before being admitted to a program of studies.

**Program of Studies**

The degree study plan in theatre will include at least 30 units of adviser-approved graduate studies, 15 units of which must be in 500-level courses. Each program will have 24 units in drama; a core of six units (Theatre 500, Introduction to Graduate Study—taken very early in the program, and Theatre 598, Thesis); and six units of adviser-approved supporting courses in related fields either in other departments or within the Theatre Department but outside the area of emphasis. Before the degree is granted each student will pass an oral and written examination.

For further information, consult the Department of Theatre. Also see "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.





# SCHOOL OF BUSINESS ADMINISTRATION AND ECONOMICS

Dean: Jack W. Coleman

## Department of Accounting

Professors: Coleman, Hirsch, Meier (chairman), Wiseman

Associate Professor: Woo

Assistant Professors: Corman, Frye, Gustafson, Lee, Waxman

## Department of Economics

# BUSINESS ADMINISTRATION AND ECONOMICS

Assistant Professors: Allen, Clayton, Depp, Friesen, Lachman, Mathews, Moore

Pickersgill, Schick

Lecturers: Chapman

## Department of Finance

Professor: Tsagris (chairman)

Assistant Professor: Wilson

## Department of Management

Professors: Barres, McCleod, Tropo

Associate Professors: Colgan, McKee, Shost (chairman), Wiley

Assistant Professors: Baillie, Hall, Hill, Lockard

Lecturers: Heliwig, Hough, Kirpalani, Lytle

## Department of Marketing

Professors: Bell, Forrest, Roberts (chairman), Smith (Dean and Professor Emeritus)

Associate Professor: Lange

Lecturers: Davis, Harris, King, Lundstrom, Vinson

## Department of Quantitative Methods

Professors: Chow, Rutenfranz (chairman)

Associate Professors: Colman, Edmondson, Hightower, Joun

Assistant Professors: Busby, Mitchell

Lecturers: Brown, Mueller

## THE UNDERGRADUATE PROGRAM IN BUSINESS ADMINISTRATION AND ECONOMICS

Through a study of the various theoretical and practical business policies and procedures, the School of Business Administration and Economics affords a basic education for managerial and professional positions in business, government, and education. Although emphasis is given to theory, factual content which is essential in specific vocations such as accounting, economics, finance, marketing, management, and business education is provided to enable students to enter apprenticeships in these fields with the expectation that their education should expedite their progress, either to managerial positions or to staff positions as professional accountants, economists, educators, and marketing and business consultants.

In our ever-expanding, complex society, the managers of tomorrow must be men and women with breadth of understanding and vision. Students who concentrate in a special area are encouraged to elect courses in other divisions of the college, particularly in the areas of the behavioral, social, and political sciences, and foreign languages. It is assumed that the first half of their college work toward a bachelor's





# SCHOOL OF BUSINESS ADMINISTRATION AND ECONOMICS

Dean: Jack W. Coleman

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## Department of Accounting

Professors: Coleman, Hirsch, Meier (chairman), Wiseman  
Associate Professor: Woo  
Assistant Professors: Corman, Frye, Gustafson, Lee, Waxman

## Department of Economics

Professors: Graves (chairman), Klein, Phillips, Townshend-Zellner  
Associate Professors: Horton, Lafky, Pontney  
Assistant Professors: Ahn, Cayton, Dolp, Harlow, Lancaster, Michaels, Morkre,  
Pickersgill, Schick  
Lecturer: Chapman

## Department of Finance

Professor: Tsagris (chairman)  
Associate Professors: Daane, Nichols  
Assistant Professors: Mlynaryk, Roebuck, Sharma

## Department of Management

Professors: Barres, McCloud, Trego  
Associate Professors: Colgan, McKee, Shaul (chairman), Wiley  
Assistant Professors: Baillie, Hall, Hill, Lockareff  
Lecturers: Hellwig, Hough, Kirpalani, Lyle

## Department of Marketing

Professors: Bell, Forrest, Roberts (chairman), Smith (Dean and Professor Emeritus)  
Associate Professor: Lange  
Lecturers: Davis, Harris, King, Lundstrom, Vinson

## Department of Quantitative Methods

Professors: Chow, Rutemiller (chairman)  
Associate Professors: Colman, Edmondson, Hightower, Joun  
Assistant Professors: Busby, Mitchell  
Lecturers: Brown, Mueller

## THE UNDERGRADUATE PROGRAM IN BUSINESS ADMINISTRATION AND ECONOMICS

Through a study of the various theoretical and practical business policies and procedures, the School of Business Administration and Economics affords a basic education for managerial and professional positions in business, government, and education. Although emphasis is given to theory, factual content which is essential in specific vocations such as accounting, economics, finance, marketing, management, and business education is provided to enable students to enter apprenticeships in these fields with the expectation that their education should expedite their progress, either to managerial positions or to staff positions as professional accountants, economists, educators, and marketing and business consultants.

In our ever-expanding, complex society, the managers of tomorrow must be men and women with breadth of understanding and vision. Students who concentrate in a special area are encouraged to elect courses in other divisions of the college, particularly in the areas of the behavioral, social, and political sciences, and foreign languages. It is assumed that the first half of their college work toward a bachelor's

## Business Administration

degree represents a required basic education in communication, mathematics, a laboratory science, social science, and the humanities. Since the understanding of mathematics is becoming increasingly important in business and the social sciences, students who contemplate enrollment in either business administration or economics are encouraged to take four years of high school mathematics. College algebra, or three years of high school mathematics including a second course in algebra, will be a minimum prerequisite for entrance to the program.

If credits for either or both elementary accounting and principles of economics have not been earned, it will be necessary to enroll in these courses the first semester of the junior year.

Students enrolled in the school and working toward a college degree are subject to the general requirements of the college as to courses and credit hours required for graduation.

### BACHELOR OF ARTS IN BUSINESS ADMINISTRATION

The degree requirements are as follows:

1. Completion of a minimum of 50 semester credit hours in business administration and economics courses in the School of Business Administration and Economics, of which 35 semester credit hours must be upper division courses.
2. Completion of at least 15 semester credit hours in the School of Business Administration and Economics at the college.
3. Completion of the required core courses in the School of Business Administration and Economics.
4. Completion of 12 semester credit hours of required courses in an area of concentration to be selected by the student.
5. Completion of at least 62 semester credit hours in areas other than business administration. Students may elect to apply economics core courses outside the School of Business Administration and Economics to fulfill this requirement.
6. Students must attain at least a 2.0 grade point average (C average) in all college work attempted, in all courses taken in the School of Business Administration and Economics, and in his area of concentration.

**CORE:** The business administration and economics courses listed below are required of all students majoring in business administration:

Course	Units
Economics 100A-B, or 200 Principles of Economics	5-6
Economics 310 Intermediate Microeconomic Theory or	
Economics 320 Intermediate Macroeconomic Theory†	3
Quantitative Methods 265 Computer Programming and Applications	3
Accounting 201A-B Elementary Accounting	6
Finance 330 Business Finance	3
Management 341 Principles of Management	3
Management 346 Business Law	3
Marketing 351 Principles of Marketing	3
Quantitative Methods 361 Business and Economic Statistics	3
Quantitative Methods 462 Math Models in Business and Economics*	3
Management 449 Seminar in Business Policies**	3

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### AREAS OF CONCENTRATION FOR MAJORS IN BUSINESS ADMINISTRATION

A student in business administration should select an area of concentration by the second semester of the junior year and take the required courses in the area.

\* Quantitative Methods majors will take QM 463 in lieu of QM 462; economics majors, QM 362.

\*\* Students taking business economics as their area of concentration will take Econ 410, Government and Business—in lieu of Mgmt 449, Business Policies.

† Students should ascertain departmental requirement.



<b>Accounting</b>	<b>Units</b>
301A-301B Intermediate Accounting .....	6
302 Cost Accounting .....	3
And at least one of the following courses:	
308 Federal Income Tax .....	3
401 Advanced Accounting .....	3
402 Auditing .....	3
407 Integrated Data Processing Systems .....	3
<b>Economics</b>	
310 Intermediate Microeconomic Theory .....	3
320 Intermediate Macroeconomic Theory .....	3
Economics Elective, 400-level .....	3
Management 446 Managerial Economics .....	3
<b>Finance</b>	
331 Financial Analysis .....	3
And at least three of the following courses:	
324 Money and Banking .....	3
335 Security Investments .....	3
336 Principles and Practices of Real Estate .....	3
337 Real Estate Finance .....	3
338 Real Estate Valuation .....	3
401 Real Estate Research .....	3
425 Commercial Bank and Financial Institution Management .....	3
431 Capital and Money Markets .....	3
433 Problems in Business Finance .....	3
435 Security Analysis .....	3
439 Social Insurance .....	3
<b>Management</b>	
342 Production Operations Management .....	3
343 Personnel Management .....	3
444 Management of Systems .....	3
446 Managerial Economics .....	3
<b>Marketing</b>	
353 Marketing Administration .....	3
452 Marketing Research .....	3
459 Marketing Problems .....	3
A minimum of one of the following courses:	
352 Principles of Retailing .....	3
354 Principles of Advertising .....	3
355 Credit and Credit Administration .....	3
356 Creative Motivation in Marketing .....	3
357 Industrial Purchasing .....	3
358 Physical Distribution .....	3
454 Advertising Problems .....	3
457 Sales Analysis and Control .....	3
458 International Marketing .....	3

Business Administration

Quantitative Methods

Quantitative Methods majors are required to take Mathematics 150A, Calculus

461 Advanced Statistics	3
At least three of the following courses:	
364 Computer Logic and Programming	3
446 Computer Programming Theory	3
464 Information Structures, Information Storage and Retrieval	3
465 Linear Programming	3
467 Statistical Quality Control	3
469 Reliability Statistics	3
Mktg 452 Marketing Research	3
Econ 440 Introduction to Econometrics	3

BUSINESS EDUCATION

Students who wish to major in Business Administration in preparation for a career as a secondary school teacher in business subjects must meet the requirements of the School of Business Administration and Economics and the secondary school teacher education program including the requirements for the proper credential as outlined in the catalog.

The requirements for a major in this area are as follows:

- 1. The core requirements as set forth for all business administration majors, page 108.
- 2. Twelve hours of advanced work in one of the six areas of concentration:
  - a. Accounting
  - b. Economics
  - c. Finance
  - d. Management
  - e. Marketing
  - f. Quantitative methods
- 3. Meet the School of Business minimum requirement of 50 credit hours in business administration and economics courses.
- 4. A maximum of 12 credit hours in the secretarial field, including those applied as electives, may count toward the degree in business administration and economics.\*
- 5. Completion of at least 62 credit hours in areas other than business administration and economics are required for the degree.

Education courses required for a credential will be detailed by the School of Education.

The requirements for a minor in this area are as follows:

	Units
Economics 100A-B or 200 Principles of Economics	5-6
Accounting 201 A-B Elementary Accounting	6
QM 264 Computer Programming	1
One of the following:	
Mktg 351 Principles of Marketing	3
Fin 330 Business Finance	3
Mgmt 346 Business Law	3
**QM 265 Comp. Progr. and Appl.	3 3
Educ 442 Teaching Business in Secondary School	2
† Electives	6
	22-24

\* The college does not offer work in secretarial training, typewriting, or business machines. Consult the Dean of the School of Business Administration and Economics to arrange for transfer of approved courses to satisfy these requirements.

\*\* Will also satisfy QM 264 requirement.

† A maximum of six units of secretarial courses, including those applied as electives, may count toward the minor in Business Education.



**MASTER OF BUSINESS ADMINISTRATION**

Applicants, as well as continuing students, should read carefully the requirements for master's degree programs, page 71.

Note: The School of Business Administration and Economics requires that a student be classified in order to enroll in graduate courses (500-level) or receive prior permission from the Associate Dean for Graduate Programs in the School of Business Administration and Economics.

**The Programs for the M.B.A. Degree**

The School of Business Administration and Economics offers two plans for the M.B.A. degree.

Plan I is a broad integrated program designed primarily for students with an undergraduate degree in a field other than business administration or economics. To insure breadth in the program, the student is not permitted to take more than nine units in any one functional area.

Plan II is an integrated program allowing some concentration in an area of specialization. Under this plan the student is required to complete 12 units in an area of concentration. It is designed primarily for students with baccalaureate degrees in business administration and economics.

The degree is earned by completion of 30 units in courses approved for graduate work with an overall grade-point average of not less than 3.0.

The M.B.A. degree can be achieved via three combinations:

- a. 30 units of coursework; or
- b. 27 units of coursework and an approved project; or
- c. 24 units of coursework and an approved thesis.

The procedural steps for admission to, and completion of, the Master of Business Administration degree follow:

**ADMISSION AS AN UNCLASSIFIED GRADUATE STUDENT**

1. Apply for admission to the college in unclassified graduate status and declare the objective to be an M.B.A. Plan I or an M.B.A. Plan II. If the student specifies the M.B.A. Plan II, he must also specify his area of concentration. This must be accomplished at the Office of Admissions and Records before the dates established in the college calendar.

2. Apply for admission to the M.B.A. program. Please read carefully page 71, and as indicated please secure informal advisement from the Graduate Office of the School of Business Administration and Economics. The informal advisement should occur at least three weeks prior to your first registration, but in any event during the first semester of work.

**Admission to the Graduate Program: Classified Graduate Status**

Please contact the Graduate Office of the School of Business Administration and Economics for advisement prior to your first registration, but in any event during the first semester of residence.

Admission to classified status in the graduate program of the School of Business Administration and Economics at California State College, Fullerton requires:

1. A bachelor's degree from a fully accredited college or university.
2. *At least a 2.75 GPA on upper division work (the last 50 per cent of coursework) at the undergraduate level.*

*or*

At least a 3.0 GPA on the sequential 60 semester units immediately preceding the application for classified standing, provided that these 60 units are approved by the School of Business Administration and Economics.

3. Completion of the Admission Test for Graduate Study in Business before or during the first semester of residence with a minimum score of 450.

## Business Administration

4. Completion of all prerequisite courses (basic business core subjects) within a seven-year period prior to being classified with an overall GPA of 3.0 and with no grade lower than 2.0 (C).
5. Satisfactory completion of a comprehensive examination on prerequisite courses (basic business core subjects).

### PLAN I

#### Prerequisites

Acceptance into the program requires the completion of the following prerequisites or equivalent with a grade-point average of not less than 3.0.

	Units
*Math 120 Elementary Probability or Calculus	3
*QM 264 Computer Programming	1
Acctg 300 Accounting Fundamentals	3
Econ 300 Basic Economics	3
Fin 330 Business Finance	3
Mgmt 341 Principles of Management	3
Mgmt 346 Business Law	3
Mktg 351 Principles of Marketing	3
QM 361 Business and Economic Statistics	3
Total	25

### CURRICULUM

Candidates under the M.B.A. Plan I Program are required to complete 30 units of which 6 units are electives.

The coursework required of all candidates (24 units) under this option is as follows:

	Units
<b>Accounting</b>	
Required	
†500 Seminar in Industrial Accounting	3
501 Seminar in Administrative Accounting	3
Electives	
407 Integrated Data Processing Systems	3
502 Seminar in Accounting Theory	3
504 Seminar in Contemporary Managerial Accounting Problems	3
Other 400- and 500-level accounting courses	
<b>Economics</b>	
Required	
510 Competition, Monopoly and Public Policy	3
512 Comparative Economics Seminar	3
Electives	
511 Economic Problems and Public Policy	3
Other 400- and 500-level economics courses	

\* QM 265, Computer Programming and Applications, will satisfy both the mathematics requirement and the computer programming requirement.

† Accounting majors must substitute another acceptable course for Accounting 500.



**Finance**

	<i>Units</i>
Required	
532 Seminar in Corporate Financial Management.....	3
Electives	
533 Seminar in Financial Administration.....	3
534 Seminar in Financial Markets.....	3
535 Seminar in Investment Management.....	3
536 Seminar in Risk Management.....	3
537 Seminar in Real Estate Investment.....	3
Other 400- and 500-level finance courses	

**Management**

Required	
544 Seminar in Organizational Behavior and Administration.....	3
Electives	
541 Seminar in Project Operations Problem Solving.....	3
542 Seminar in Labor Relations.....	3
543 Seminar in Personnel Administration.....	3
545 Seminar in R & D Project Management.....	3
548 Seminar in International Management.....	3
549 Seminar in Policy Planning and Administration.....	3
Other 400- and 500-level management courses	

**Marketing**

Required	
551 Seminar in Marketing Problems.....	3
Electives	
452 Marketing Research.....	3
552 Seminar in Pricing and Price Policy.....	3
553 Seminar in Product Planning.....	3
554 Seminar in Promotion.....	3
555 Seminar in Marketing Research.....	3
556 Seminar in Consumer Behavior.....	3
559 Seminar in Marketing Thought and Concepts.....	3
Other 400- and 500-level marketing courses (except Marketing 459)	

**Quantitative Methods**

Required	
563 Statistical Decision Theory, <i>or</i>	
560 Operations Research.....	3
Electives	
446 Computer Programming Theory.....	3
461 Advanced Statistics.....	3
464 Information Structures, Information Storage and Retrieval.....	3
465 Linear Programming.....	3
469 Reliability Statistics.....	3
561 Seminar in Operations Research.....	3
565 Seminar on Computers in Industry.....	3
566 Design of Experiments.....	3
Other 400- and 500-level courses	

## PLAN II

### Prerequisites

Acceptance into the program requires the completion of the following prerequisites or equivalent with a grade-point average of not less than 3.0.

\*Math 120 Elementary Probability or

Calculus .....	3
*QM 264 Computer Programming .....	1
Acctg 201AB Elementary Accounting .....	6
Econ 100AB Principles of Economics .....	6
Fin 330 Business Finance .....	3
Mgmt 341 Principles of Management .....	3
Mgmt 346 Business Law .....	3
Mktg 351 Principles of Marketing .....	3
QM 361 Business and Economics Statistics .....	3

**Total** ..... **31**

In addition to the prerequisites listed above, *each student will be held responsible to the department of his choice for the specialized undergraduate background (prerequisites) prescribed for that area of concentration.* The area of concentration shall be selected from finance, management, marketing, and quantitative methods.

### CURRICULUM

The curriculum required of candidates under the M.B.A. Plan II is as follows:

1. The required graduate core program in the Plan II M.B.A. shall be 15 to 18 units:

Acctg 500 Seminar in Industrial Accounting .....	3
Fin 532 Seminar in Corporate Financial Management .....	3
Mgmt 544 Seminar in Organizational Behavior, and Administration .....	3
Econ 512 Comparative Economics Seminar or	
Econ 510 Competition, Monopoly, and Public Policy .....	3
Mktg 551 Seminar in Marketing Problems .....	3
QM 563 Statistical Decision Theory, or	
QM 560 Operations Research .....	3

2. In addition to the graduate core, each student shall elect an area of concentration of at least 12 units to be approved by an adviser, the department chairman concerned, and the graduate coordinator. Candidates under the M.B.A. Plan II program are required to complete a total of 30 units.

### ADVANCEMENT TO CANDIDACY

**Achievement of this status requires the following**

1. Completion of 12 credit hours of graduate work of which 6 units must be 500-level with a minimum grade point average of 3.0.
2. Completion of an application form (in the Graduate Office) approved by the adviser, the Associate Dean, Graduate Programs, and/or the Graduate Studies Committee.

### COMPLETION

#### Comprehensive Examination

Candidates for the M.B.A. degree must complete the prescribed coursework, must satisfactorily pass a comprehensive examination and must receive the endorsement of the faculty of the School of Business Administration and Economics.

For further information, consult the Associate Dean, Graduate Programs, in the School of Business Administration and Economics.

See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

\* QM 265, Computer Programming and Applications, will satisfy both the mathematics requirement and the computer programming requirement.



**BACHELOR OF ARTS DEGREE IN ECONOMICS**

The economics major is designed to prepare students for positions in business education, and government, and for graduate work in economics and related disciplines.

Required of all students for the degree:

1. Completion of 41 semester credit hours of courses in business administration and economics in the School of Business Administration and Economics, of which 27 semester credit hours must be in upper division courses.
2. Completion of at least 15 semester hours in the School of Business Administration and Economics at the college.
3. Completion of the major course requirements for economics majors, in the School of Business Administration and Economics. Students in economics are required to take Quantitative Methods 265 or equivalent as prerequisite to Quantitative Methods 361.
4. Completion of at least 62 semester credit hours in areas other than business administration and economics.
5. Students must attain at least 2.0 grade-point average (C average) in all college work attempted, and in all courses in the School of Business Administration and Economics.

Business administration and economics courses required of all students majoring in economics are listed below:

**Lower Division**

Course	Units
Econ 200 or 100A-B Principles of Economics	5-6
Acctg 201A-B Elementary Accounting	6
QM 265 Computer Programming and Applications	3
<b>Total</b>	<b>14-15</b>

**Upper Division**

Course	Units
Econ 310 Intermediate Microeconomic Theory	3
Econ 320 Intermediate Macroeconomic Theory	3
Econ 410 Government and Business	3
Econ 420 Money and Banking	3
QM 361 Business and Economic Statistics	3
QM 362 Introduction to Quantitative Methods in Economics	3
Nine hours of upper division electives in Economics approved by the student's adviser	9
<b>Total</b>	<b>27</b>

**MINOR IN ECONOMICS**

A minor in economics may be achieved by taking the following courses:

Economics	Units
200 or 100A-B Principles of Economics	5-6
310 Intermediate Microeconomic Theory	3
320 Intermediate Macroeconomic Theory	3
Electives	9
<b>Total</b>	<b>20-21</b>

MASTER OF ARTS IN ECONOMICS

The Master of Arts in Economics is a part-time, evening (and late-afternoon) degree program, designed especially for candidates who will be employed full or part-time while working for the M.A. degree.

The procedural steps for admission to, and completion of, the Master of Arts in Economics degree follow.

Admission Requirements

1. Apply for admission to the college in unclassified graduate status and declare the objective to be a Master of Arts in Economics degree. This must be accomplished at the Office of Admissions before the dates established in the college calendar.

2. Apply for admission to the Master of Arts in Economics program. Please read carefully page 71, and as indicated secure informal advisement from the Graduate Office of the School of Business Administration and Economics. The informal advisement should occur at least three weeks prior to your first registration, but in any event during the first semester of work. Specific admission requirements include:

- a. An overall grade-point average in all undergraduate work of not less than 2.7.
- b. Competency in mathematics through fulfillment of *one* of the following: Courses in college algebra and calculus; completion of California State College, Fullerton courses QM 265 and QM 362 (or equivalent); satisfactory completion of a mathematics proficiency test developed by the Department of Economics, comprising mathematical applications in economics.
- c. Satisfactory level of performance in a written examination in economics.
- d. Satisfactory level of performance on the Graduate Record Examination (verbal and quantitative), aptitude only.
- e. Interview.

Prerequisites

Acceptance into the program requires the completion of the following prerequisite courses, or equivalent:

- 1. *For students without an undergraduate major in economics* (a grade-point average of not less than 3.0 in the following prerequisites is required):

	Units
Principles of economics .....	6
Intermediate Microeconomic Analysis .....	3
Intermediate Macroeconomic Analysis .....	3
Statistics (analytical) .....	3
Money and banking .....	3
Government and business .....	3
Total .....	21

- 2. *For students with an undergraduate major in economics:* 24 semester units of work in economics or related courses (e.g., statistics), with a minimum grade-point average of 3.0. The 24 units must include the following courses or their equivalent, with a minimum grade of 3.0 in each course: Intermediate Microeconomic Analysis, Intermediate Macroeconomic Analysis, Statistics (analytical), money and banking.

For more information, consult the Associate Dean, Graduate Programs, in the School of Business Administration and Economics.  
See also, "The Program of Master's Degree," page 71, and the *Graduate Bulletin*.



**Program**

## 1. A core of 12 graduate units in economics is required:

	<i>Units</i>
Economics 502, Advanced Microeconomic Analysis.....	3
Economics 503, Advanced Macroeconomic Analysis.....	3
Economics 505, Methodology in Economic Research Seminar.....	3
Economics 506, Seminar in Micro- and Macroeconomic Applications ( <i>project</i> required).....	3

Total ..... 12

## 2. Electives\*:

- |                                                                                                                                                                                 |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| a. Elect one graduate course in economics (other than the required core courses, and outside the quantitative field) .....                                                      | 3 |
| b. Elect one 400-level or graduate-level course in quantitative or mathematical economics .....                                                                                 | 3 |
| c. Elect two 400-level or graduate-level courses in fields <i>other than</i> economics, yet related to economics and approved as part of the student's integrated program ..... | 6 |
| d. Elect two 400-level or graduate-level courses both in economics or both in other related fields, or one in economics and one in other related fields .....                   | 6 |

Total ..... 18

For further information, consult the Associate Dean, Graduate Programs in the School of Business Administration and Economics.

See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

\* If nine or more units are taken in fields outside economics in elective areas c. and d., then three of these units must be at the graduate level.





# SCHOOL OF EDUCATION

Dean: Eugene L. McGarry

Professors: Alexander (Journalism Education), Brockmann, Carr, Coppolino, Croy, Cusick, Dennis,\* Dietz (Art Education), Doane,\* Etkin,\* Feldman\* (Foreign Language Education), Fierman, Gilmore, Harris, Jones (English Education), Kravitz, Lake, Landon (Music Education), Lay (Mathematics Education), R. Lepper (Science Education), McGarry, Schneider (English Education), Turner (Science Education)

Professors Emeritus: Allen, McComb

Associate Professors: Bennett, Cox (English Education), Donoghue, Good (Speech Education), Gould, Holmes, Henry (Theatre Education), Lammont, McCullough, Nelson, Preble, Six, Smith, Zimmerman (Foreign Language Education)

Assistant Professors: Bachman (Mathematics Education), Ellison (Music Education), Gellert, McLaren, Moffet, Nans (English Education), Oso, Pease, Powlson, Schmidt, Simpson, Stark, Streibenger (Science Education), Williams (Science Education)

## EDUCATION

The courses, programs, and services of the school are directed toward the following objectives of students:

1. Master of Science in Education with concentration in elementary curriculum and instruction, reading, school administration, school counseling, or special education.
2. Preservice teacher education (elementary school, secondary school, junior college, mentally retarded)
3. In-service teacher education
4. Professional preparation of administrative and counseling personnel for the public schools
5. Program for the preparation of reading specialists
6. Major in physical education leading to the bachelor of science degree
7. Master of Science in Physical Education

Instruction concentrates on the central principles of human behavior, human development, human learning, individual differences, physical activity, the school as a basic institution of our culture, the methods and materials associated with effective teaching, school administration, school counseling, and the current and persistent problems that confront administrators, teachers, counselors and other professional workers in educational institutions. In addition to using published source materials and attending class sessions for presentations and discussions, many of the school's courses require fieldwork in schools and other educational agencies.

### PUBLICATIONS AVAILABLE FROM SEVERAL DEPARTMENTS OF THE SCHOOL OF EDUCATION

1. Master of Science in Education, Elementary Curriculum and Instruction.
2. Master of Science in Education, Reading.
3. Master of Science in Education, School Administration.
4. Master of Science in Education, School Counseling.
5. Master of Science in Education, Special Education.
6. Admission to Teacher Education: Standards, Instructions, Application.
7. Admission to Student Teaching: Standards, Instructions, Application.

\* College administrative officers.





# SCHOOL OF EDUCATION

Dean: Eugene L. McGarry

Professors: Alexander (Journalism Education), Brockmann, Carr, Coppolino, Croy, Cusick, Denno,\* Dietz (Art Education), Doane,\* Ehmann,\* Feldman\* (Foreign Language Education), Fierman, Gilmore, Hartsig, Jones (English Education), Kravitz, Lake, Landon (Music Education), Lay (Mathematics Education), R. Lepper (Science Education), McGarry, Schneider (English Education), Turner (Science Education)

Professors Emeritus: Allen, McComb

Associate Professors: Bennett, Cox (English Education), Donoghue, Good (Speech Education), Gould, Holmes, Henry (Theatre Education), Lemmon, McCullough, Nelson, Preble, Sica, Smith, Zimmerman (Foreign Language Education)

Assistant Professors: Bachman (Mathematics Education), Bates, Chadwick (Music Education), Ellison (Music Education), Gerfen, Kane, Lyon (Art Education), McLaren, Moffet, Nims (English Education), Osen, Pease, Powlison, Schmidt, Simpson, Stark, Streiberger (Science Education), Williams (Science Education)

Lecturers: Ferguson, Kingdon, Knirk, Langstaff, March, Pagni (Mathematics Education)

The courses, programs, and services of the school are directed toward the following objectives of students:

1. Master of Science in Education with concentration in elementary curriculum and instruction, reading, school administration, school counseling, or special education.
2. Preservice teacher education (elementary school, secondary school, junior college, mentally retarded)
3. In-service teacher education
4. Professional preparation of administrative and counseling personnel for the public schools
5. Program for the preparation of reading specialists
6. Major in physical education leading to the bachelor of science degree
7. Master of Science in Physical Education

Instruction concentrates on the central principles of human behavior, human development, human learning, individual differences, physical activity, the school as a basic institution of our culture, the methods and materials associated with effective teaching, school administration, school counseling, and the current and persistent problems that confront administrators, teachers, counselors and other professional workers in educational institutions. In addition to using published source materials and attending class sessions for presentations and discussions, many of the school's courses require fieldwork in schools and other educational agencies.

## **PUBLICATIONS AVAILABLE FROM SEVERAL DEPARTMENTS OF THE SCHOOL OF EDUCATION**

1. Master of Science in Education, Elementary Curriculum and Instruction.
2. Master of Science in Education, Reading.
3. Master of Science in Education, School Administration.
4. Master of Science in Education, School Counseling.
5. Master of Science in Education, Special Education.
6. Admission to Teacher Education: Standards, Instructions, Application.
7. Admission to Student Teaching: Standards, Instructions, Application.

\* College administrative officer.

## Education

8. Standard Teaching Credential with a Specialization in Elementary Teaching.
9. Standard Teaching Credential with a Specialization in Secondary Teaching.
10. Standard Teaching Credential with a Specialization in Junior College Teaching.
11. Preparation of Teachers of Mentally Retarded Children Program.
12. Program in Teaching Children with Speech and Hearing Handicaps.
13. Standard Supervision Credential.
14. Program for Elementary Internship.
15. Program for Administrator Internship.
16. Requirements for the Master of Science Degree in Physical Education.

## PRESERVICE TEACHER EDUCATION

### TEACHER EDUCATION CURRICULA

California State College, Fullerton is accredited by the California State Board of Education for programs leading to the following credentials:

1. Standard teaching credential with specialization in elementary school teaching
2. Standard teaching credential with specialization in secondary school teaching
3. Standard teaching credential with specialization in junior college teaching
4. Standard teaching credential with specialization, in lieu of minor, in the teaching of exceptional children in the area of mentally retarded children.
5. Standard teaching credential with specialization, in lieu of minor, in the teaching of exceptional children in the area of speech and hearing handicapped children
6. Restricted teaching credential for services as a speech and hearing specialist.
7. Restricted teaching credential to teach the trainable mentally retarded.
8. Restricted teaching credential to teach the educable mentally retarded.
9. Standard designated services credential with a specialization in pupil personnel services.
10. Standard supervision credential.

The School of Education has administrative responsibility for teacher education. All curricula provide for completing the requirements for graduation with the bachelor of arts degree at the end of the usual four collegiate years and an additional year of work to satisfy requirements for a teaching credential. Preparation for teaching in a junior college requires the master's degree. Details of the programs are provided in special brochures available from the School of Education. Information about the professional services authorized by the above credentials will be provided by professional advisers.

### PERSONNEL SERVICES FOR TEACHER EDUCATION STUDENTS

Advisement is available to any student seeking a public school credential and a bachelor of arts degree at this college. During registration, the student should consult an adviser in the department in which he expects to major and an adviser in the School of Education who will help him select courses and build his program. A student from another institution should bring transcripts of previous work and a tentative selection of courses. Transferred education courses must be of upper division level and taken within the past 15 years to be applicable to upper division credential requirements.

### ADMISSION TO TEACHER EDUCATION

To become a candidate for a teaching credential the student must be enrolled, in good standing, and must be admitted to "teacher education" in the Office of Admission to Teacher Education of the School of Education. Application for admission to teacher education should be filed during the first semester of the junior year or the first semester of attendance at the college, if the student enters with advanced standing.



Admission to teacher education is required of each student before he files the application for student teaching.†

A faculty committee will review information concerning the applicant's intellectual resources and mastery of important concepts in the common curricular areas of higher education, command of fundamental skills of communication (English language usage, written composition, speech, hearing, reading comprehension, handwriting, mathematical skills), scholarship, personality and character, interest in teaching, and health. Data related to these criteria are gathered from transcripts and records from other schools and colleges, group and individual tests, personality inventories, estimates of the potential of the applicant, and from the Student Health Center. Students should normally qualify for admission and be advised of their status during the second semester of the junior year or their first semester of attendance if they enter with advanced standing with degrees from accredited colleges.

Students who show weaknesses in any of the fundamental skills of communication are advised of their standing. If there are weaknesses in only one or two of the areas noted above, the student will be advised of refresher courses and given a specified time to meet the standard.

If the applicant has serious deficiencies in communication skills or does not meet the standards of mastery in the common curricular areas, personality and character, scholarship, interest in teaching, or health, the faculty committee will deny admission to teacher education.

The student must arrange to take the required battery of group and individual tests and inventories necessary to provide information needed by the faculty committee. The tests of breadth of understanding, reading, English usage, number skills, composition, handwriting, and personality are given by the School of Education for admission to teacher education; consult the Office of Admission to Teacher Education of the School of Education for dates.

The student who comes to CSCF to work toward a credential for teaching in a secondary school and who already has a bachelor's degree must, before he is admitted to teacher education, consult with an adviser in the major and must submit a statement, signed by the adviser, which indicates the following:

1. That the student's undergraduate preparation in his major is considered to be adequate for the credential sought, or
2. Specific courses which the student must complete to have a major adequate for the credential sought, and which he must complete before he will be admitted to student teaching. These may be in addition to the minimum of the six upper division or graduate units required in the major in the postgraduate year, or may, in part or in whole, satisfy this six unit minimum requirement.

Full details on standards and procedures for admission to teacher education are described in "Instructions and Standards for Admission to Teacher Education," which is available from the Office of Admission to Teacher Education, Department of Elementary Teacher Education, Reading and Secondary and Junior College Teacher Education.

### **STUDENT TEACHING**

Each candidate for the standard teaching credential with specialization in elementary school teaching will do his student teaching in the last semester of his senior year or in his postgraduate year at the college. Each candidate for the standard teaching credential with specialization in secondary school teaching, or for the standard teaching credential with specialization in junior college teaching will do his student teaching during a postgraduate year. Details about student teaching in special education classes are available in the Office of Special Education. Student teaching assignments are made in the elementary and secondary schools of districts geographically accessible to the college. Junior college student teaching assign-

† Exceptions will be made in the case of new transfer students.



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ments are made in nearby junior colleges. Students will be assigned to work under the supervision of carefully selected supervising teachers; a college supervisor makes frequent visits to the student teacher and the supervising teacher. Student teachers meet in a weekly seminar under the leadership of the college supervisor to discuss performance and problems.

### Application for Student Teaching

Admission to teacher education as described above is the first step in a cumulative and continuing evaluation of a candidate's fitness to teach. The applicant for admission to student teaching must have a grade-point average of 2.5 in the major, 2.5 in the minor, and 2.5 in professional education. Marks of C, or better, are required in all professional education courses. Applicants for admission to elementary school student teaching must be classified as postgraduate students or be within 15 units of the baccalaureate degree. Applicants for admission to secondary school student teaching or to junior college student teaching must be classified as postgraduate students. All applicants must have completed at least 12 units at California State College, Fullerton. The applicant must present a favorable report on health status and history. He must present evidence of readiness for student teaching responsibility as testified by the major adviser, the professional adviser, and other college faculty. This evidence relates to scholarship, breadth of understanding, command of the subjects to be taught, fundamental skills of communication, personality and character, interest and potential for teaching, and health.

Competence is required in all subjects and skills for which the candidate is seeking a credential. For the elementary school teacher education student, this includes all subjects and skills commonly taught in the first eight grades of the public schools. Secondary school and junior college teacher education students must meet the requirements for major and minor(s) as specified by the academic divisions.

All instructors of the college are asked to participate in the continuing evaluation of students in relation to those aptitude, personality and character traits which are considered essential to admission to the teaching profession. Dependability in fulfilling assignments, class attendance, ability to get along with people, industry, and emotional stability are representative criteria. In addition to the evaluations by instructors, the applicants may be interviewed by a faculty committee, and attention will be directed to general appearance, dress, vitality, poise, temperament, integrity, and social attitudes.

The application for admission to student teaching is submitted to the coordinator of elementary education or the coordinator of secondary education. The application must be submitted by October 15 or March 1 of the semester preceding the semester in which the student teaching assignment is expected. A faculty committee will gather the information described above and report to the student in time to do planning for the following semester.

*Except for graduate students who are in their first semester of study at CSCF, applications will be accepted only from those who have completed all requirements for admission to teacher education.*

Full details on standards and procedures are described in "Instructions and Standards for Admission to Student Teaching," available in the Department of Elementary Teacher Education, Reading and Secondary Teacher Education.

### Study Limits of Student Teachers

Students who enroll in Educ 339 or 739, Student Teaching in the Elementary School, will be limited to one additional course for that semester. Students who enroll in Educ 749, Student Teaching in the Secondary School, will be limited to two additional courses for that semester. It is expected that students will not carry out-of-college work responsibilities during the semester of the student teaching assignment.



If a student is under hardship because of these limitations, he may submit a petition to the coordinator of elementary education or to the coordinator of secondary education, as appropriate, requesting permission to carry not more than 13 units, including student teaching. The petition must set forth, in full, the circumstances necessitating the petition.

**Permission to Substitute Teaching Experience for Student Teaching**

A candidate for a teaching credential who has had two years of successful, regular teaching experience must petition the School of Education, through his professional adviser, for permission to substitute such experience for the student teaching requirement. Substitution of teaching experience for student teaching will be considered only if the applicant:

1. Has been admitted to teacher education at the college.
2. Has submitted an official verification from his former supervisor, principal, or superintendent to the School of Education certifying at least two years of successful, regular teaching experience at the appropriate level. A form for this verification is available in the Office of the School of Education.

**STATUTORY REQUIREMENTS FOR CREDENTIALS FOR TEACHING**

The curricular requirements for credentials for teaching in California elementary schools, secondary schools and junior colleges are included in the curricula descriptions. Upon the completion of the requirements, the student will submit an application for a credential to the State Department of Education in Sacramento. On these applications the student is asked about his citizenship status, his professional conduct, and he is asked to sign an oath of allegiance. He must also submit a health examination form signed by a qualified physician, two fingerprint-identification cards and the legal fee, which is currently \$20. The forms are available in the Credentials Office of the college.

**Curriculum in Elementary School Teacher Education \***

The program leading to the recommendation for the standard teaching credential with specialization in elementary school teaching includes the following:

1. A bachelor's degree from an approved institution.
2. A fifth year of college or university postgraduate education taken at the upper division or graduate level. (If the student does not complete all requirements, the credential may be awarded on the basis of partial fulfillment at the end of four or more years of work if he has a bachelor's degree from an approved institution and has completed the student teaching requirement.)
3. A minimum of 45 semester hours in five of the following six areas: (1) social sciences, (2) natural sciences, (3) humanities (excluding foreign languages), (4) fine arts, (5) mathematics, and (6) foreign languages. The humanities requirement must include a year of English and a course in advanced composition. (To prepare himself to meet professional responsibilities, an elementary school teacher education candidate should include in his program Art 100, Music 101, PE 123, PE 149, and Speech Communication 101 or Speech Communication 231.) These 45 semester hours of coursework for the credential can be met through the college general education requirements for the bachelor's degree with the proper selection of courses. (Not more than six hours of coursework taken to satisfy these requirements shall apply toward the fulfillment of the requirements for either a major or a minor.)
4. Three semester hours of coursework in the theory of the structure, arithmetic and algebra of the real number system or three semester hours of coursework in calculus. (Math Ed 303A meets this requirement.)
5. One of the following:
  - a. A major consisting of at least 24 semester hours of upper division or graduate level courses in an academic subject matter area commonly taught in the

\* Regulations for the credential are subject to change by the State Board of Education; any curricular changes will be available in later college publications.

public elementary schools. These majors are currently available for this specialization at the college: American studies, anthropology, art, biological science, chemistry, communications with a journalism emphasis, comparative literature, drama, economics, English, French, geography, German, history, linguistics, mathematics, music, philosophy, physics, political science, psychology, sociology, Spanish, speech. (Note: the specifications above are state minima, and do not necessarily satisfy requirements for a major for graduation from the college.)

- b. A major and a minor, each of which is in a subject matter area commonly taught in the public elementary schools, and one of which is in an academic subject matter area. The academic major shall consist of at least 24 semester hours of upper division or graduate coursework. If the major is not an academic one, it shall consist of 28 semester hours of upper division or graduate coursework. (With a nonacademic major, i.e., business administration or physical education, only the major and minor subjects may be taught in kindergarten and grades 1 through 9.) This minor shall consist of a minimum of 20 semester hours of coursework. When the major is in an academic subject matter area specialized preparation in such areas as mentally retarded or speech and hearing handicapped may be substituted.
- c. Two minors in subject matter areas commonly taught in the public elementary schools and a major, other than education and educational methodology, not commonly taught therein. If the major is not in an academic subject matter area, each minor shall be in an academic matter area. (With a nonacademic major only the major and minor subjects may be taught in kindergarten and grades 1 through 9.) If the major is in an academic subject matter area, one of the minors shall be in an academic subject matter area. These minors shall consist of a minimum of 12 semester hours coursework. Specialized preparation in such areas as mentally retarded or speech and hearing handicapped may be substituted for one of the minors.
6. Courses selected from the following ones offered by academic departments as part of the basic preparation for elementary teachers. A minimum of three courses, selected with the approval of a professional adviser, must be completed before student teaching.

Art 380 Art and Child Development (3)

English 433 Children's Literature (3)

Math Ed 303B Fundamental Concepts of Mathematics (3)

Music 333 Music and Child Development (3)

PE 333 Physical Education and Human Development (3)

Sci Ed 310 Elementary Experimental Science (3)

7. Professional education requirements which are currently met by the following program:

Educ 329 Fieldwork in Methods of Teaching in Elementary Schools (1)

Educ 331A Elementary School Principles, Curricula, and Methods: Mathematics, Science, and Social Studies (4)

Educ 331B Elementary School Principles, Curricula, and Methods: Language Arts and Reading (3)

Educ 339 or 739 Student Teaching in the Elementary School (8)

Educ 401 Social Foundations of Education (4)

Educ 411 Psychological Foundations of Education (3)

**Note:** Admission to the college does not include admission to the elementary teacher education program. Procedures for *admission to teacher education* are outlined on page 122. It is the responsibility of each student to file an application for



*admission to teacher education* in his junior year and to complete the requirements for *admission to teacher education* before enrolling in Educ 329 and 331.

Admission to teacher education does not include *admission to student teaching*. Each student is responsible for meeting the requirements and following the procedures for *admission to student teaching* given on page 123.

**Composite Lower Division, Upper Division, and Fifth Year Work**

A student seeking recommendation for the standard teaching credential with specialization in elementary school teaching after five years of preservice teacher education should complete—

In the lower and upper division:

- a. Coursework listed in 3, 4, and 5 above.
- b. A minimum of three courses from item 6 above. These courses are to be selected in consultation with and with the approval of his professional adviser.
- c. Courses in professional education  
Junior year, Educ 411 (3)  
Senior year, second semester, Educ 329 (1), 331A (4) and 331B (3)
- d. Additional courses selected in consultation with his professional adviser.

In the fifth year:

- a. Courses in professional education  
First semester, Educ 739 (8)  
Second semester, Educ 401 (4)
- b. Additional courses from item 6 above as needed and other courses selected in consultation with his professional adviser.

(The applicant for the standard teaching credential with specialization in elementary school teaching must complete 30 units of upper division and/or graduate work after he has completed all requirements for the bachelor's degree.)

A student seeking the standard teaching credential with specialization in elementary school teaching on partial fulfillment of requirements should complete—

In the lower and upper division:

- a. Coursework listed in 3, 4, and 5 above.
- b. A minimum of three courses from item 6 above. These courses are to be selected in consultation with and with the approval of his professional adviser.
- c. Courses in professional education  
Junior year, Educ 411 (3)  
Senior year, first semester, Educ 329 (1) and 331A (4) and 331B (3)  
Senior year, second semester, Education 339 (8)
- d. Additional courses selected in consultation with his professional adviser

In the fifth year (to be completed during the first seven years of teaching):

- a. Courses in professional education  
Educ 401 (4)
- b. Additional courses from item 6 above as needed and other courses selected in consultation with his professional adviser.

(The applicant for the standard teaching credential with specialization in elementary school teaching must complete 30 units of upper division and/or graduate work after he has completed all requirements for the bachelor's degree.)

**Alternate Program, Internship**

An alternate program (internship teaching) leading to the recommendation for the standard teaching credential with specialization in elementary school teaching is available for those who meet the requirements.

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This program fulfills the fifth year (30 units beyond the bachelor's degree) requirement and qualifies the candidate for the Standard Teaching Credential with an Elementary Specialization.

This program extends over two summers and two semesters. A student must begin the internship program in the summer preceding his internship teaching.

Standards for admissions to the internship program:

- a. A bachelor's degree from an approved institution with a major consisting of at least 24 semester hours of upper division or graduate level courses in an academic subject matter area commonly taught in the public elementary schools.
- b. A minimum of 45 semester hours in five of the six areas outlined in No. 3 on page 125.\*
- c. Three semester hours of coursework in mathematics outlined in No. 4 on page 125.\*
- d. No teaching experience.
- e. A grade-point average of 2.5 in the major.
- f. Minimum achievement requirements on the Graduate Record Examination for admission to graduate study.
- g. Screening by faculty in Elementary Teacher Education and by cooperating school districts.
- h. Sponsorship by a school district as an intern in elementary school teaching.

Courses in the program include selection from No. 6 on page 126, the courses in No. 7 on page 126, Educ 496, 537, 595, and one or more electives from the following:

- Educ 503 Graduate Studies in Elementary Education: Foreign Languages (3)
- Educ 531 Graduate Studies in Elementary Education: Language Arts (3)
- Educ 532 Graduate Studies in Elementary Education: Mathematics (3)
- Educ 533 Graduate Studies in Elementary Education: Science (3)
- Educ 534 Graduate Studies in Elementary Education: Social Studies (3)

### Curricula in Preparation of Special Education Teachers

There are three credential programs and one non-credential program offered by the department. The credential programs include the regular mental retardation credential, the restricted credential to teach the educable mentally retarded, and the restricted credential to teach the trainable mentally retarded. The non-credential program is one leading to teaching the educationally handicapped.

#### **Requirements for the Credential to Teach the Mentally Retarded**

Students who complete the requirements for this credential are qualified to teach both the trainable and educable mentally retarded. In addition to completing the requirements in special education, the student must also complete the curriculum in either elementary or secondary education as described on pages 125 and 131. When the major is in an academic area commonly taught in the elementary or secondary schools (as appropriate), the 22 units of specialized preparation described below (not including student teaching) may be substituted for the minor. Upon successful completion of the program, the student will be recommended for the standard teaching credential with a specialization in elementary or secondary teaching with specialized preparation to serve as a teacher of exceptional children, area of the mentally retarded. Upon receipt of the credential, the student will be authorized to teach in special classes as well as in regular classes at the appropriate level.

Students desiring to prepare as teachers of the mentally retarded should proceed as follows:

\* For those who do not meet this requirement, but otherwise qualify for the internship, a program will be planned so that the individual can enter the internship program and meet the requirements of the Curriculum in Elementary School Teacher Education.



1. Apply for admission to special education (forms are available in the department office).
2. Arrange for a personal interview with a member of the special education faculty.
3. Apply for admission to teacher education as described on page 122.
4. Upon completion of the necessary prerequisite courses, apply for admission to student teaching. Since students completing this program divide their student teaching experience between special education and regular education, they should apply for admission to student teaching as described on page 123. In addition, they must apply for student teaching in special education by completing the application form necessary the semester before taking the course.

Students seeking recommendations for this special credential to teach the mentally retarded should complete the courses listed below in lieu of the minor required for the Standard Teaching Credential.

	<i>Units</i>
Educ 471 Exceptional Children .....	3
Educ 473 Mental Retardation and Brain Injury .....	3
Educ 474 Curriculum and Methods for Teaching the Mentally Retarded .....	3
Educ 475 Observation and Individual Instruction with the Mentally Retarded .....	3
Educ 779 Student Teaching with Mentally Retarded Pupils .....	4
Educ 452 Principles of Guidance .....	3
Speech Comm 403 Speech Development or Educ 470 Language and Communication Problems of Exceptional Children .....	3
Electives from courses related to teaching the mentally retarded (4 units); electives must be approved by the adviser	—
Total number of units in special education not including student teaching .....	22

**Recommended Sequence of Courses in Professional Education for Students  
Preparing as Teachers of the Mentally Retarded**

	<b>Elementary</b>	<b>Secondary</b>
Junior year, first semester .....	Educ 411 (3)	Educ 411 (3)
Junior year, second semester .....	Educ 471 (3)	Educ 471 (3) Educ 340 (3)
Senior year, first semester .....	Educ 331 (8) Educ 473 (3)	Educ 442 (3) Educ 473 (3)
Senior year, second semester .....	Educ 474 (3)	Educ 474 (3) Educ 401 (4) Educ 475 (3)
Fifth year, first semester .....	Educ 475 (3) Speech Comm 403 (3) Electives in special education (4) Educ 401 (4)	Speech Comm 403 (3) Electives in special education (4)
Fifth year, second semester .....	Educ 779 (4) Educ 739 (4) Educ 452 (3)	Educ 779 (4) Educ 749 (2) Educ 452 (3)

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### **Requirements for a Restricted Credential to Teach the Educable Mentally Retarded**

Upon completion of the requirements for this credential, an individual is qualified for service at all grade levels with service restricted to teaching the mentally retarded. Students seeking this credential must:

1. Obtain the baccalaureate degree.
2. Complete a fifth year of college work.
3. Complete 22 hours of course work in special education and related fields.
4. Complete student teaching with educable mentally retarded children.

Educ 312 is prerequisite to this credential program.

### **Requirements for a Restricted Credential to Teach the Trainable Mentally Retarded**

Successful completion of this program qualifies the student for a credential restricted to the teaching of the trainable mentally retarded. A fifth year of study is not required; courses may be completed either as an undergraduate or a graduate student. The student does not need to complete requirements for the Standard Elementary or Standard Secondary Teaching Credential.

In addition to the completion of the requirements for the baccalaureate degree at California State College, Fullerton or other accredited institutions, the student must follow Plan I or Plan II listed below.

#### **Recommended Sequence of Courses in Professional Education for Students Preparing as Teachers of the Trainable Mentally Retarded**

**Plan I:** Recommended for students selecting program in the junior year

(credential will be issued with bachelor's degree upon completion of program).

Major: Recommend Psychology, Sociology, or Speech, but others are acceptable.

Junior year, first semester .....	Educ 411 (3)
Junior year, second semester .....	Educ 471 (3)
Senior year, first semester .....	Educ 473 (3)
.....	Educ 479 (6)
Senior year, second semester .....	Speech Comm 403 (3)
.....	Educ 779 (4)

**Plan II:** For Graduate Students

	<i>Units</i>
Educ 411 Psychological Foundations of Education .....	3
Educ 471 Exceptional Children (optional) .....	3
Educ 473 Mental Retardation and Brain Injury .....	3
Speech Comm 403 Speech Development (optional) .....	3
Educ 479 Seminar and Practicum in Education of the TMR .....	6
Educ 779 Student Teaching with the Mentally Retarded .....	4

The program for preparing teachers of the educationally handicapped is a graduate program. Since it leads to no credential, the student must possess either a standard elementary or standard secondary credential in order to teach the educationally handicapped. Students interested in working with these children should consult with a member of the departmental faculty in order to plan their programs. Since the curriculum is restricted to graduate students, it should appeal to persons interested in specializing in special education at the master's degree level. (See page 135 for the Master of Science in Education—Special Education)

Students seeking a credential to teach the mentally retarded should proceed as follows:

\* For those who do not meet the requirements for admission to the internship program, the student will be required to complete the internship program and receive a recommendation from the State Board of Education.



**Curriculum in Preparation of Reading and Remedial Reading Specialists**

Teachers who wish to enter the program for the preparation of specialists in reading and remedial reading, including both primary and secondary school levels, may enroll in the following 18-unit specialty:

**Sequence of Courses in Reading**

	<i>Units</i>
Educ 506 Curriculum and Research: Reading .....	3
Educ 516 Etiology of Reading Difficulties .....	3
Educ 581 Analysis of Reading Difficulties .....	3
Educ 582 Analysis of Reading Practices .....	3
or	
Educ 584 Linguistics and Reading .....	3
or	
Educ 585 Word Perception Skills in Reading .....	3
Educ 583A Remedial Reading: Casework .....	3
Educ 583B Remedial Reading: Casework .....	3

Completion of the reading sequence will entitle the student to a statement of completion of the reading specialty.

**Curriculum in Secondary School Teacher Education \***

Credential requirements and the program leading to the recommendation for the standard teaching credential with specialization in secondary school teaching includes the following:

1. A bachelor's degree from an approved institution.

2. A fifth year of college or university postgraduate education taken at the upper division or graduate level. (The postgraduate year is defined by California State College, Fullerton as 30 semester units of upper division or graduate level coursework completed after the bachelor's degree. Coursework taken through extension at this college and summer workshops offered at this college may be used as coursework applying towards the fifth-year requirement.)

3. Forty-five semester hours of coursework, including the English and the competency described below, and including *four* of the following six areas: (1) humanities (excluding foreign languages), (2) social sciences, (3) natural sciences, (4) mathematics requiring as a prerequisite an understanding and knowledge of high school algebra and geometry, (5) fine arts, and (6) foreign languages. The humanities requirement must include a year of English, and in addition, the applicant for the credential shall demonstrate competence in composition either by passing a course in advanced composition or by passing an examination in lieu thereof.

(NOTE: This 45 semester hours of coursework for the credential can be met through the college general education requirement for the bachelor's degree with proper selection of courses. Not more than six hours of coursework taken to satisfy these requirements shall apply toward the major or minor for the credential.)

4. Preparation in subject matter areas commonly taught in the public secondary schools for the purpose of *credential* requirements for majors and minors.

a. One of the following:

Option 1. A major in an academic subject matter area commonly taught in the public secondary schools.

Option 2. A major and a minor, each of which is in a subject matter area commonly taught in the public high schools, and one of which is in an academic subject matter area.

\* This is the curriculum for the standard teaching credential with specialization in secondary school teaching. Credential requirements are subject to regulatory changes. Any such changes will be described in later college publications.

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- b. Major requirements for the credential must include at least 24 upper division and graduate level units. At least six units in the major must be taken at the graduate level. Six postgraduate units in the minor may be taken in lieu of this requirement for the major. See the *general course numbering code* on page 217 for the description of graduate level courses for the credential. Also see the appropriate sections of this catalog for descriptions of requirements in specific majors. The college will recognize single subject areas as satisfying Option 1 provided the student supplies additional upper division or graduate units in supporting areas structured by the department in which the baccalaureate degree is taken and in consultation with the other departments involved. This option should be considered carefully, since it may not be practical in terms of job placement. Some departments of the college will require that the student must present a minor. Students must consult with academic and professional advisers concerning Option 1.
- c. Minor requirements vary, but must include 20 units in a single subject in this credential program at CSCF. (Note: A minor is not required for graduation from the college but is required for the recommendation of the college for Option 2.)

Each student will complete a major planned with and approved by his major adviser. Majors presently available are: American studies, art, biology, business administration, chemistry, communications with journalism emphasis, drama, economics, English, French, geography, German, history, mathematics, music, physical education, physics, political science, Spanish, and speech.

Each student will complete a minor planned with and approved by his professional adviser. Minors presently available are: American studies, art, biology, business education, chemistry, communications with journalism emphasis, drama, economics, English, French, geography, German, history, mathematics, music, physical education, physics, political science, Spanish and speech. Students may also present specialized preparation to serve as a teacher of exceptional children in the area of the mentally retarded or speech and hearing handicapped in lieu of the minor.

Students majoring in business administration and physical education must have an academic minor with a minimum of 20 units in subjects commonly taught in the public secondary schools. Students with these majors must complete 12 units of upper division or graduate level work in the minor area.

5. Credential requirements in courses for preservice professional education are met in the following program in professional education:

### Courses in Professional Education

	Units
Educ 340 Principles and Curricula of Secondary Education.....	3
Educ 401 Social Foundations of Education.....	4
Educ 411 Psychological Foundations of Education.....	3
Educ 442 Teaching (art, English, etc.) in the Secondary Schools (also listed in respective departments).....	2
Educ 449 Field Work in Methods of Teaching in Secondary Schools.....	1
Educ 749 Student Teaching (art, English, etc.) in the Secondary School and Seminar (also listed in respective departments).....	6

Students normally will begin their work in professional education in the junior year, and it is expected that, except for Educ 401, the courses above will be taken in the indicated sequence. Students who begin their work in professional education as seniors or as graduate students will follow a somewhat different sequence, and



should consult professional advisers when planning their programs. Graduate students without professional education backgrounds may be required to extend their program beyond a single academic year to complete the college secondary school teacher education program. Coursework taken in extension at other institutions is not acceptable in substitution for any of the above courses. In all cases, students are required to take Educ 340 the first semester they are enrolled in professional education.

**Note:** Admission to the college does not include admission to the secondary school teacher education program. See the description on page 122 for the procedures for *admission to teacher education* which does include admission to this credential program. It is the responsibility of each student to file his application for *admission to teacher education* by the end of the semester in which he completes Educ 340. It is also the responsibility of each student to arrange to complete his requirements for *admission to teacher education* early in his work in professional education. Students must be admitted to teacher education prior to taking Educ 442 and 449.

Admission to teacher education does not include *admission to student teaching*. See the description of the procedures for *admission to student teaching* on page 123. The student must observe the deadline and must meet other requirements for *admission to student teaching*.

### Curriculum in Junior College Teacher Education

The program requirements leading to the college-recommended standard teaching credential with a specialization in junior college teaching are:

1. A master's or higher degree from CSCF or other accredited institution.
2. Preparation in subject matter areas commonly taught in public junior colleges in either of the following:
  - a. An academic major in a single subject commonly taught in public junior college. (The subject in which a master's degree has been granted constitutes a major in that subject for these purposes.)
  - b. If the major is nonacademic (the candidate holds a master's degree in a subject such as business administration or physical education), the candidate must have an academic minor of a minimum of 20 semester hours in a single subject commonly taught in the public junior college. Twelve of the units in the minor must be of upper division or graduate level.
3. Professional education requirements in CSCF recommended program:

	<i>Units</i>
Educ 744 Principles of Junior College Teaching.....	3
Educ 799 Junior College Student Teaching and Seminar.....	4

### Admission to Junior College Teacher Education Program

Admission to the college does not constitute admission to junior college teacher education.

The candidate must:

Have a master's or higher degree from a fully accredited institution in a field in which the college offers a major

or

have classified graduate status (master's degree candidacy) at CSCF and possess a baccalaureate degree.

Admission to junior college teacher education follows in general the procedure described on page 122. For exact procedures see Office of Admissions to Teacher Education.

The student is responsible for filing his application for admission as early as possible and is also responsible for admission to teacher education.

## Education

Application for junior college student teaching and seminar is not included in admission to the program. The student is responsible for following the procedures listed on page 124 under "Application for Student Teaching."

The courses in professional education listed above will be taken in sequence. The student must have postgraduate standing before he enrolls in these courses. Student teaching may be taken in either the last semester in which the master's degree will be completed or after the degree has been granted.

N.B.: The above is a description of the program leading to the recommendation of the college for the credential. This program includes student teaching and work in professional education not required by the state. The college program is designed to meet the job placement needs of candidates for positions in junior colleges.

### **Program Leading to the California Credential—Speech and Hearing Specialist**

Students wishing to pursue the major in Speech and Hearing and to complete a fifth year for the "Restricted Teaching Credential for Services as a Speech and Hearing Specialist" (1967) should follow the major for speech for the B.A. degree with emphasis in speech pathology and audiology to be followed by a fifth year of adviser-approved specialized preparation.

Required in the undergraduate and graduate years will be the completion of 65 semester units constituting a well-integrated program that includes 18 semester units in courses that provide fundamental information applicable to the normal development and use of speech, hearing, and language, and their relationship to the educative process, and 42 semester units in courses that provide information about and training in the management of speech, hearing, and language disorders and that provide information supplementary to these fields.

Details of this teacher education program are found on page 208. The program is administered by the Department of Speech Communication in consultation with the School of Education.

### **Standard Teaching Credential with Specialization in Speech and Hearing in Lieu of Minor**

A major other than speech and hearing is required for the clinical speech and hearing program taken in lieu of a minor. See an adviser in the Department of Speech Communication for details of this program.

## **ADVANCED CREDENTIAL PROGRAMS**

### **Administration and Supervision**

Students are required to take Educ 503, Foundations of Administrative Leadership, during their first registration in *school administration*, or be accepted in the *internship in school administration*. To continue in the program beyond this course the student must be granted a "letter of admission to the program" and possess an official CSCF program evaluation. Both the internship and the regular credential program are an integrated whole. Students who desire only isolated courses from the program are normally denied admission to such courses. Experienced school administrators, holding a California Administrative credential and exempt from degree requirements may register for any course in the School Administration concentration. Teachers wishing to take courses in school administration directed at helping them to understand administration problems are welcome to take selected courses.

A selected number of teachers, who have completed a minimum of five years teaching experience, will be offered an opportunity to study and to practice school administration as school interns in administration. A candidate must obtain admission to the program and agreement must be reached with a sponsoring school or college district to employ the candidate as a full-time administrator during the



school year. All candidates will be given a temporary credential for supervision and administration according to the regulations of the California Administrative Code, Title V, Section 6555. Such candidates should register in two courses:

Educ 561 Organization of School Systems

Educ 563 Principles of School Personnel Administration

Both courses must be completed in the summer session if the student is to do his internship beginning in the fall semester. Applications for admission to the administrator internship program should be sent to Dr. Ernest G. Lake, Chairman, Internship Program in School Administration, by June 1. Careful planning of electives will enable candidates to receive the master of science degree in education with a concentration in school administration upon further study after completing the requirements of the internship.

### **Pupil Personnel Services**

Pupil Personnel Services offers work toward the credentials for school counseling, school psychometrists and school psychologists. (The Standard Designated Services Credential with Specialization in Pupil Personnel Services.) Students must check with an appropriate adviser to plan a program of study.

#### **Counseling**

Students begin work for the credential by taking Educ 452, Principles of Guidance. Other courses in this credential program include: Educ 471, Exceptional Children; 509, Theory and Practice in Measurement; 510, Research Analysis and Design; 550, Counseling Theories and Processes; 551, Educational and Career Orientation; 552, Group Processes in Guidance; 555, Dynamics of Individual Behavior and Case Study; 559AB, Fieldwork in Pupil Personnel Services.

#### **Psychometry**

Students preparing for the psychometry credential complete the work in counseling and include Psychology 461, Group Psychological Testing; Psychology 531, Individual Mental Testing; Educ 559AB, Fieldwork in Psychometry; and coursework in learning or behavior disorders depending on the needs of individual students.

#### **School Psychology**

Students preparing to be school psychologists add to the work in counseling and psychometry two 5-unit seminars. These are Educ 558A, School Psychology: Seminar in Personality Diagnosis; and Educ 558B, School Psychology: Seminar in Problems of Learning. In addition students will be employed full time as psychometrists or do a minimum of 20 hours per week in fieldwork in school psychology.

## **GRADUATE PROGRAMS**

### **MASTER OF SCIENCE IN EDUCATION**

#### **General Characteristics**

This degree is reserved for professionally qualified graduate students who desire to prepare for or advance their careers in *school counseling, school administration, special education, reading, or elementary curriculum and instruction*. Most students in school counseling and administration can meet credential requirements in either pupil personnel services or administration (including supervision) while completing the degree.

#### **Prerequisites**

Most programs have as prerequisites a teaching credential, successful teaching experience, an approved major, acceptable scores on the Graduate Record Examination (area tests or aptitude test), a 2.5 grade-point average on previous academic

## Education

and related work, and screening into the program on the basis of the prerequisites and professional leadership criteria. Credit will be given for previous postbaccalaureate studies when possible. Otherwise well-qualified students may be admitted to the college with limited subject or grade deficiencies, but these deficiencies must be removed. Grade-point average deficiencies may be removed by a demonstration of competency in the graduate program.

### Programs of Study

#### Elementary Curriculum and Instruction

The adviser-approved 30 units (minimum) on the study plan will include the following:

	Units
Coursework outside elementary education.....	9
Two of the following:	
Educ 402 Comparative Education (3)	
Educ 403 History of Education (3)	
Educ 406 Educational Sociology (3)	
Educ 452 Principles of Guidance (3)	
Educ 501 Philosophy of Education (3)	
Educ 509 Theory and Practice in Measurement (3)	
Educ 510 Research Design and Analysis (3)	
Other adviser-approved courses (3)	
Coursework in elementary education.....	15
Educ 537 Seminar for Elementary Education (3)	
Three of the following:	
Educ 530 Graduate Studies in Elementary Education: Foreign Languages (3)	
Educ 531 Graduate Studies in Elementary Education: Language Arts (3)	
Educ 532 Graduate Studies in Elementary Education: Mathematics (3)	
Educ 533 Graduate Studies in Elementary Education: Science (3)	
Educ 534 Graduate Studies in Elementary Education: Social Studies (3)	
One of the following:	
Educ 597 Graduate Project (1-2) (total of 3)	
Educ 598 Thesis (1-2) (total of 3)	
Electives selected with approval of the adviser.....	6

For further information, consult the Chairman.

#### Reading

The adviser-approved 31-33 units on the study plan will include the following Studies:

	Units
Educ 510 Research Design and Analysis .....	3
Supporting courses from other disciplines.....	9
Courses for the concentration in reading .....	18
Educ 506 Curriculum and Research: Reading (3)	
Educ 516 Etiology of Reading Difficulties (3)	
Educ 581 Analysis of Reading Difficulties (3)	
Educ 582 Analysis of Reading Practices (3)	
or	
Educ 584 Linguistics and Reading (3)	
or	



Educ 585 Word Perception Skills in Reading (3)

Educ 583A Remedial Reading: Casework (3)

Educ 583B Remedial Reading: Casework (3)

Educ 597 Graduate Project (1-3)

or

Educ 598 Graduate Thesis (1-3)

or

A comprehensive examination (1) \_\_\_\_\_ 1-3

For further information, consult the Chairman.

### School Administration

Students concentrating in *school administration* will take Educ 503, Foundations for Administrative Leadership, as soon as they identify their interest in this M.S. degree. The adviser-approved 30 units (minimum) on the study plan will include:

Master's degree studies, supporting courses \_\_\_\_\_ **Units**  
9

Educ 510 Research Design and Analysis (3)

Adviser-approved courses (outside the student's area of specialization and outside the Department of School Administration (6)

Courses for the Concentration in School Administration \* \_\_\_\_\_ 18

All of the following:

Educ 505 Supervision of Curriculum (4)

Educ 561 Organization of School Systems (3)

Educ 563 Principles of School Personnel Administration (2)

Educ 564 Seminar in School Law (2)

Educ 565 Seminar in School Finance, Business Administration and Buildings (3)

Educ 567A Fieldwork and seminar in School Administration (Includes Project or Thesis) (2)

Educ 567B Fieldwork and seminar in School Administration (Includes Project or Thesis) (2)

One of the following \_\_\_\_\_ 3

Educ 566 The Elementary School Principal and Supervisor (3)

Educ 586 The Secondary School Principal, Junior College Administrator and Supervisor (3)

For further information, consult the Chairman.

### School Counseling

Students concentrating in *school counseling* will take Educ 452, Principles of Guidance as soon as they identify their interest in this concentration in the M. S. Education degree. At or near the end of this course students are normally admitted to this program by a screening process. Students who transfer this course in from other institutions must see an adviser for approval of the next course before continuing in the program. This second course then becomes the screening course for transfer students.

The adviser-approved 30 units (minimum) on the study plan will include the following:

A. Nine units outside the area of specialization \_\_\_\_\_ **Units**  
9

1. Educ 510 Research Design and Analysis (3)

2. Six units selected with the approval of an adviser (6)

\* Though the requirements for the M.S. degree are not identical with the requirements for the credential, a qualified student can achieve both objectives with careful planning. Consult your adviser for details.

## Education

- B. Twenty-one units in the concentration in counseling ..... 21
1. Educ 551 Educational and Career Orientation (3)
  2. Educ 552 Group Processes in Guidance (3)
  3. Educ 553 Administration and Organization of Pupil Personnel Programs (3)
  4. Educ 555 Dynamics of Individual Behavior and Case Study (3)
  5. Educ 559A,B Fieldwork in Pupil Personnel Services (3-3)
  6. Educ 597 or 598 Graduate Project or Thesis (1-2; total of 3)

*For further information, consult the Chairman.*

### Special Education

The following information is provided to assist students in planning programs and in seeking admission to classified graduate status. Students should consult the *Graduate Bulletin* for information concerning standards for graduate study, steps in the master's degree program, and graduate policies and procedures. This publication is available from the Office of Graduate Studies.

#### Objectives of the Degree Program:

The program is designed:

1. To help individuals interpret and implement research related to exceptional children, conduct appropriate research in the classroom and/or clinical setting, become skilled in their abilities to diagnose with educational instruments and observation techniques, interpret the results of diagnostic procedures, prescribe and implement educational strategies.
2. To provide teachers with competencies to enable them to fulfill the role of supervising teachers and demonstration teachers in special classes.
3. To prepare individuals for positions of leadership in the field of special education.
4. To prepare individuals to pursue graduate work toward the doctoral degree.

#### Prerequisites for Admission to the Program:

1. A baccalaureate degree from an accredited institution.
2. At least 2.5 grade-point average in previous academic and related work.
3. An acceptable score on the Graduate Record Examination—Aptitude Test.

#### Steps in the Master's Degree Program (see *Graduate Bulletin*):

##### Courses Required for the Degree:

Units

- A. Nine semester hours of adviser-approved courses outside the area of special education ..... 9
1. 3 hours in basic research (Met by Educ 510 (3) *or* Educ 509 (3))  
*and*
  2. Administration (Met by 6 units of adviser-approved courses)  
*or*  
Clinic orientation  
*or*  
Teaching strategies  
*or*  
Communication and Interpersonal relations  
*or*  
Educational technology  
*or*  
Inter- and intracultural studies



- B. Twenty-one semester hours of adviser-approved courses selected from the area of special education \_\_\_\_\_ 21
1. 4-6 units of thesis or project (Met by Educ 514 (3) and Educ 597 or 598 (1-3))
  2. 2-5 units of practicum (Met by Educ 572 (2-4) or Educ 496 (1-3))
  3. 10-15 units of special education specialization (Met by adviser-approved special education courses at the 400 and 500 level)

For further information, consult the Chairman.

Also see "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

## DEPARTMENT OF HEALTH EDUCATION, PHYSICAL EDUCATION AND RECREATION

Professors: Johnson (Chairman), Ormalev, Pastor

Associate Professors: Barrett, Caine, Fulton, Hanauer, Little, Stovall, Yessis

Assistant Professors: Fardy, Scheel, Witchev

Instructors: Matson, Wolfe

Lecturers: Coury, Moore, Weinmann

### BACHELOR OF SCIENCE IN PHYSICAL EDUCATION

The department offers a bachelor of science in physical education for students preparing to teach, for those preparing to pursue graduate work in physical education and for those preparing for careers in business, industry and government service.

The major consists of 40 units in health education, physical education and recreation, and six units of electives in upper division in supporting and related fields. Electives are to be approved by the students' departmental adviser. Requirements for the major, including proficiency requirements, prerequisite and lower division courses, are indicated below.

#### Proficiency Requirements for Major Students

All physical education majors must demonstrate proficiency in the areas of aquatics, rhythms, gymnastics, combatives (men), modern dance (women) and in individual and team sports. Intensive skill courses in these areas should be taken in the lower division. All major students must attain satisfactory proficiency in all categories listed below in any one of the following ways:

1. Complete courses PE 205 Professional Activities Sports/Dance series (4 courses at two units each)  
or
2. Pass proficiency screening test as administered by the course instructor.

At least one of the following:  
 01 PE 311 Seminar in Physical Education  
 04 PE 316 Professional Development  
 PE 320 International Physical Education  
 11 Elective (2-4 units) in Physical Education  
 units in one of the following concentrations:  
 (PE 399 Independent Research, 1-3 units, may be applied to any of the concentrations which follow.)

† Students must have completed the proficiency skills test required in the current or a prerequisite as indicated in any of the courses listed in the index PE 311-316.

# Health Education, Physical Education and Recreation

## MAJOR IN PHYSICAL EDUCATION

Prerequisites	Units
Chemistry 100* Introductory Chemistry .....	4
or	
Physics 211A* Elementary Physics .....	4
or	
Physical Sci 201* Modern Physical Science .....	4
Biological Sci 101 Elements of Biology .....	5
Biological Sci 361 Mammalian Anatomy and Physiology .....	4
Total .....	13

### Electives: Interdisciplinary

Six units of electives in upper division in supporting or related fields. Electives will be approved by the student's departmental adviser..... 6

Total ..... 6

### Courses in Health, Physical Education and Recreation

#### Lower Division (all required)

HE 101 Personal and Community Health .....	2
HE 102 Prevention and First Aid .....	2
PE 201 Introduction to Physical Education and Recreation .....	3
Rec 203 Recreation Programs and Activities .....	2
Total .....	9

#### Upper Division (all required)

PE 324 Theory and Principles of Human Motor Learning .....	3
PE 325 Case Studies in Human Motor Learning .....	3
PE 416 Kinesiology .....	3
PE 417 Physiology of Exercise .....	3
PE 418 Adapted and Corrective Activities .....	3
HE 419 The School Health Program .....	3
PE 420 Tests and Measurements in Physical Education .....	3
Total .....	21

#### Upper Division (Any five courses) †

PE 311 Analysis of Aquatics .....	2
PE 312 Analysis of Combatives .....	2
PE 313 Analysis of Folk, Square and Social Dance .....	2
PE 314 Analysis of Individual and Dual Sports .....	2
PE 315 Analysis of Modern Dance (W) .....	2
PE 317A,B Analysis of Team Sports (W) .....	4
PE 318 Analysis of Team Sports (M) .....	2
PE 319 Analysis of Gymnastics and Tumbling .....	2
Total .....	10

Total in health, physical education and recreation..... 40

\* Chemistry or physics or physical science as taught at California State College, Fullerton.



## Health Education, Physical Education and Recreation

### MINOR IN PHYSICAL EDUCATION

A minor consists of 22 units of work as listed below:

**Lower Division:** HE 102, PE 201, Rec 203.

**Upper Division:** PE 324, 416 or 417, 419 or 420 and select any *three* courses (6 units) from the analysis series: †  
PE 311, 312, 313, 314, 315, 317A,B, 318, 319.

For information about teaching credentials, consult the Credentials Office or the chairman of the department.

### MASTER OF SCIENCE IN PHYSICAL EDUCATION

#### General Characteristics

The program of studies leading to this degree is designed to prepare carefully selected individuals as master teachers of physical education by providing the technical knowledge and scholarship necessary to interpret to others through modern methods of education: (1) the basic subject matter of physical education; (2) the conduct and application of experimental research pertinent to physical education; (3) the ability to evaluate critically the basic issues affecting physical education; and (4) the application of concepts from related fields having significance for physical education.

The program is also designed to prepare teachers of physical education at the college level as well as to provide the background for continued study in a doctoral program in physical education.

#### Prerequisites

Prerequisites to the program include:

- (1) completion of 24 approved upper division units in physical education;
- (2) a grade-point average of 3.0 or better, for all upper division work taken in Physical education and a 2.5 GPA for all previous college work. (Continuity provisions: grade-point deficiencies in individual courses in physical education may be met by taking 6-12 hours of approved courses at California State College, Fullerton, and earning a 3.0 GPA in these courses. Such courses, while counted toward the prerequisites for the master of science program, may not be used to fulfill the program requirements.)
- (3) completion of the Aptitude Test of the Graduate Record Examination.

#### Program of Study

The degree study plan normally consists of 30 units of graduate coursework with a GPA of 3.0 or better. Coursework shall include 21 units of 500-level courses of which 10 units shall be in the core studies. Further work includes 12-17 units in physical education electives with eight of these units concentrated in one special area. Six units of work must be in disciplines other than physical education. A thesis and an oral examination at the conclusion of the program are required; a written examination may also be required.

	Units
I. Core Studies (minimum 10 units)	
PE 510 Research Design in HEPER	3
PE 598 Thesis	4

At least one of the following:

PE 515 Seminar in Physical Education	3
PE 516 Philosophical Bases of Physical Education	3
PE 520 International Physical Education	3

- II. Electives (12-17 units) in Physical Education, including a minimum of eight units in one of the following concentrations:  
(PE 599 Independent Research, 1-3 units, may be applied to any of the concentrations which follow.)

† Students must have completed the proficiency skills test essential to the course as a prerequisite to enrollment in any of the courses listed in the series PE 311-319.

# Health Education, Physical Education and Recreation

A. Administrative:	Units
PE 532 Curriculum Design in Physical Education	3
PE 530 Administration and Supervision of HEPER	3
PE 533 Facilities Development and Planning	2
B. Scientific:	
PE 552 Human Bio-Kinetics	3
PE 555 Scientific Bases of Training	3
PE 551 Seminar: Advanced Study in Physiology of Exercise	3
PE 545 Seminar in Evaluation in Physical Education	3
PE 540 Seminar in Problems in Adapted Physical Education	3
C. Scientific Sports:	
Must include two courses from the scientific area above:	
PE 560 Advanced Study in Performance:	
(a) Tennis-Badminton	2
(b) Gymnastics	2
(c) Track and Field	2
III. Supporting courses from other disciplines	6

For further details, consult the Chairman of the Health Education, Physical Education and Recreation Department.

See also "The Program of Master's Degrees," page 71, and *Graduate Bulletin*.



# SCHOOL OF ENGINEERING

Dean: Robert G. Volpey

Professors: Cohn, El-Saden (Chairman, Mechanical and Aerospace Engineering),  
Hunt (Chairman, Electrical Engineering), Volpey

Associate Professors: Chang (Chairman, Section, Aerospace and Engineering  
Mechanics), Kemmerly, Thomas

Assistant Professors: Ho, Huder, Krishnamurthy, Kuo, Mariani, Nathaniel,  
Rizal, Tuzon

Lecturer: Kreiner

## COURSES IN ENGINEERING

The School of Engineering offers programs at the undergraduate and graduate levels. The individual courses are designed for the advancement of science and engineering. At the undergraduate level, the pattern of courses combined with those of the college, as a program of 112 semester units leading to the degree of Bachelor of Science in Engineering. At the graduate level, the program is designed to provide a

# ENGINEERING

are offered.

## BACHELOR OF SCIENCE IN ENGINEERING

The objective of the undergraduate engineering program is to form a broad base of science, mathematics, social sciences, humanities and engineering sciences—coupled with enough specialization in an area of concentration to afford a meaningful engineering career. Students are prepared to meet directly the engineering practice or to continue further education at the graduate level.

The heart of the engineering program is a four-year work program broader than that of the traditional engineering program. This work includes courses in mathematics, physics, chemistry, basic engineering, natural, social sciences and the humanities and provides a firm basis for more specialized knowledge at an advanced level. Beyond the basic core curriculum a student chooses a minimum of 30 units of technical electives to complete his program with enough specialization in an area of concentration to insure a successful engineering career. During the first 24 years of study all students in engineering take the same program including the inter-relationship of the primary engineering subjects which form the broad background required of modern-day engineers.

The program of 112 semester units provides that the entering student brings a high school preparation which includes geometry, trigonometry, and two years of algebra. Physics or chemistry, preferably both, are highly desirable. A course in mechanical drawing will be helpful. Students deficient in mathematics may take a special preparatory course, Engineering 104, Introduction to Analysis, which will not carry credit for graduation. A placement examination is required in mathematics.

A smooth transition from a junior college into upper-division engineering is assured when the following program, as a minimum, has been completed. Students





# SCHOOL OF ENGINEERING

Dean: Robert G. Valpey

Professors: Cohn, El-Saden (Chairman, Mechanical and Aerospace Engineering),  
Hunt (Chairman, Electrical Engineering), Valpey

Associate Professors: Chiang (Chairman, Structural Engineering and Engineering  
Mechanics), Kemmerly, Thomas

Assistant Professors: Ho, Hudetz, Krishnamurthy, Kwon, Monzingo, Raczkowski,  
Rizza, Tuazon

Lecturer: Kreiner

## COURSES IN ENGINEERING

The School of Engineering offers programs at the undergraduate and graduate levels. The individual courses are described in the section of this catalog on announcement of courses. At the undergraduate level the school prescribes certain patterns of courses combined with those of other academic departments and schools of the college, as a program of 132 semester units leading to the degree of Bachelor of Science in Engineering. At the graduate level the school offers a sequence of courses as a program of 30 semester units leading to the degree of Master of Science in Engineering. In the graduate program specific options in major fields are offered.

## BACHELOR OF SCIENCE IN ENGINEERING

The objective of the undergraduate engineering program is to form a broad base of science, mathematics, social science, humanities and engineering science—coupled with enough specialization in an area of concentration to initiate a successful engineering career. Students are prepared to enter directly into engineering practice or to continue further education at the graduate level.

The heart of the engineering program is a core curriculum somewhat broader than that of the traditional engineering program. This core includes courses in mathematics, physics, chemistry, basic engineering sciences, social sciences and the humanities and provides a firm basis for more specialized knowledge at an advanced level. Beyond the basic core curriculum a student chooses a minimum of 30 units of technical electives to complete his program with enough specialization in an area of concentration to initiate a successful engineering career. During the first 2½ years of study all students in engineering take the same program emphasizing the inter-relationship of the primary engineering subjects which form the broad background required of modern-day engineers.

The program of 132 semester units presumes that the entering student brings a high school preparation which includes geometry, trigonometry and two years of algebra. Physics or chemistry, preferably both, are highly desirable. A course in mechanical drawing will be helpful. Students deficient in mathematics may take a special preparatory course, Engineering 100, Introduction to Analysis, which will not carry credit for graduation. A placement examination is required in mathematics.

A smooth transition from a junior college into upper-division engineering is assured when the following program, as a minimum, has been completed. Students

Eng 101 Introduction to Engineering  
Eng 102 Graphical Analysis

Eng 103 Introduction to Engineering Mechanics  
Eng 104 Introduction to Engineering Mechanics

\*Note: This program is merely a guide. The student may follow his own path and may  
deviate from the guide.

## Engineering

deficient in any of these areas may look to our summer catalog for offerings that may make up any deficiencies:

### Minimum Number of Semester Units

Analytic geometry and calculus .....	14
Chemistry (for engineering and science majors) .....	8
Physics (for engineering and science majors) .....	12
Engineering graphics .....	2
Properties of engineering materials .....	2
Computer programming (FORTRAN) .....	2
Electric circuits .....	4
Analytical mechanics (statics) .....	3

### TECHNICAL ELECTIVES

During the junior year the student shall submit a proposed study plan to his faculty adviser covering the sequence of upper-division level courses totaling not less than 30 units in engineering and closely related fields. He must have approval of this program before taking any technical electives. At least 15 of these units shall be in an area of concentration which will provide continuity and depth of understanding in a given area of specialization. A student shall include at least two senior-level engineering laboratories within his area of concentration and one design course within his area of concentration in the 30 units of technical electives. Examples of areas of concentration currently available are: electronics, communications, control systems, digital systems, aeronautics, heat and mass transfer, thermal sciences, mechanical design, structural systems, structural design, applied mechanics, etc. In lieu of these areas of concentration a student may request the engineering science program. The program in engineering science is to be selected by the student and his adviser and submitted for approval to a committee of the School of Engineering (supplemented, if appropriate, by members of the science and mathematics faculty). The courses are to be selected from upper-division electives in engineering, physics, chemistry, mathematics and biology (additional prerequisites for science courses may be required), to meet a special and specific engineering science objective of the student such as engineering physics, computer science, premedical, etc. Note that specific engineering courses, in addition to the two senior-level engineering laboratories and one design course, may be required by the adviser or the committee.

Work taken at another college or university on which a grade of D was earned may not be substituted for upper-division courses.

### MINIMUM REQUIREMENTS FOR UNDERGRADUATE DEGREE

#### Lower Division Science and Mathematics (All required for B.S.)

	Units
*Math 150A, B Analytic Geometry and Calculus .....	8
Math 250 Intermediate Calculus .....	4
Math 281 Linear Algebra with Differential Equations .....	3
Chem 101A General Chemistry .....	5
Chem 105 General Chemistry for Engineers .....	3
Physics 225A, B, C Fundamental Physics .....	9
Physics 226A, B, C Fundamental Physics Laboratory .....	3
	<hr/> 35

\* Students with inadequate preparation for Mathematics 150A will take Engineering 100, Introduction to Analysis.



	Units
<b>Non-engineering General Education</b> .....	28

The engineering student will take at least 24 units from Areas II and III of the general education requirements for the bachelor's degree (see page 68), six units of which may meet the U.S. history and government requirements. He will follow, as a minimum, the collegewide requirements, adding courses at his discretion to make 24 units. An additional four units, for a total of 28 must be specifically approved by his adviser and will be recommended to assure the best balance for the student's education. A student shall be limited to a maximum of six units of activity courses.

#### Lower Division Engineering (All required for B.S.)

Egr 101	Introduction to Engineering	1
Egr 102	Graphical Analysis	2
Egr 201	Mechanics	3
Egr 202	Properties of Engineering Materials	3
Egr 205	Digital Computation	2
		11

#### Upper Division Engineering (All required for B.S.)

Egr 300	Electric Circuits	3
Egr 300L	Electric Circuits Laboratory	1
Egr 302	Dynamics	3
Egr 303	Electronics	3
Egr 303L	Electronics Laboratory	1
Egr 304	Thermodynamics	3
Egr 305	Transport Processes	3
Egr 306A	Unified Laboratory	1
Egr 306B	Unified Laboratory	1
Egr 308	Engineering Analysis	3
Egr 312	Linear Systems Analysis	3
Egr 370	Seminar in Engineering	1
Egr 417	Engineering Economy	2
		28
<b>Technical Electives</b> .....		30
<b>Total</b> .....		132

### DETAIL OUTLINE OF TYPICAL \* EIGHT-SEMESTER PROGRAM

#### FOR B.S. IN ENGINEERING (132 Units)

##### Semester 1 Freshman

General Education Elective	4
Math 150A Calculus	4
Chem 101A General Chemistry	5
Egr 101 Introduction to Engineering	1
Egr 102 Graphical Analysis	2
	16

\* NOTE: This program is merely a guide. The student may lighten his academic load each semester to meet his needs.

# Engineering

## Semester 2 Freshman

	Units
Math 150B Calculus	4
Physics 225A Fundamental Physics (Mechanics)	3
Physics 226A Fundamental Physics Laboratory	1
Chem 105 Chemistry (for engineers)	3
Egr 205 Digital Computation	2
General Education Elective	3
	16

## Semester 3 Sophomore

General Education Electives	6
Math 250 Intermediate Calculus	4
Physics 225B Fundamental Physics (Electricity and Magnetism)	3
Physics 226B Fundamental Physics Laboratory	1
Egr 201 Mechanics	3
	17

## Semester 4 Sophomore

General Education Electives	6
Math 281 Linear Algebra with Differential Equations	3
Egr 202 Properties of Engineering Materials	3
Physics 225C Fundamental Physics (Modern Physics)	3
Physics 226C Fundamental Physics Laboratory	1
	16

## Semester 5 Junior

Egr 300 Electric Circuits	3
Egr 300L Electric Circuits Laboratory	1
Egr 304 Thermodynamics	3
Egr 305 Transport Processes	3
Egr 306A Unified Laboratory	1
Egr 302 Dynamics	3
Egr 308 Engineering Analysis	3
	17

## Semester 6 Junior

Egr 303 Electronics	3
Egr 303L Electronics Laboratory	1
Egr 306B Unified Laboratory	1
Egr 312 Linear Systems Analysis	3
Engineering Technical Electives	9
	17

## Semester 7 Senior

General Education Electives	3
Egr 417 Engineering Economy	2
Engineering Technical Electives	12
	17



**Semester 8 Senior**

General Education Electives	6
Engineering Technical Electives	9
Egr 370 Seminar in Engineering	1
	16
Total	132

NOTE: A student may be required to take the engineering mathematics review course, 701A, B. This course is open to all who may feel the need for such a refresher course. No credit.

**MASTER OF SCIENCE IN ENGINEERING**

Applicants, as well as continuing students, should read carefully the college requirements for master's degree programs, page 71.

The procedural steps for admission to and the completion of the Master of Science in Engineering are as follows:

**Admission Procedure**

1. Apply for admission to the college in unclassified graduate status and declare the objective to be a master of science in engineering. Proof of a degree from an accredited college or university must be supplied. This must be taken care of at the Office of Admissions before the dates established in the college calendar.

2. Apply for admission to the School of Engineering master of science program. This must be taken care of at the office of the School of Engineering after admission to the college but before registration.

**Prerequisites**

Admission to the engineering program requires a 2.5 undergraduate grade point average; however, students may be considered with grade deficiencies. Students pursuing a concentration in electrical engineering are required to take a qualifying examination. Any deficiencies apparent as a result of previous grades (or in the case of electrical engineering majors, previous grades or qualifying examination) must be made up, and in some cases will require six to 12 units of adviser-approved courses with at least a 3.0 average in addition to those required for the degree. A committee of the engineering faculty will evaluate each student's record for specific course deficiencies in the engineering field. Making suitable allowance for actual engineering experience, the committee will require each student, prior to admission to the program, to make up such deficiencies as the committee determines.

NOTE: A student may be required to take the engineering mathematics review course, 701A, B. This course is open to all who may feel the need for such a refresher course. No credit.

**Admission to Classified Graduate Status**

Achievement of this status requires the following:

1. Meeting the prerequisites of the previous paragraph.
2. Before completing nine units at CSCF toward a M.S. degree, a student shall fill out an application card for classified status and make an appointment with the adviser at the office of the School of Engineering.
3. Preparing, in consultation with his adviser, an approved graduate study plan.

**Advancement to Candidacy**

Achievement of this status requires the following:

1. Having been granted classified status in the Master of Science in Engineering program.
2. Having completed 12 units of coursework on his master's degree study plan, including six units of 500-level courses with a GPA of not less than 3.0.
3. Filing an advancement to candidacy card in the Graduate Office.

# Engineering

## Graduation

Final achievement of the Master of Science in Engineering requires:

1. Having been admitted to candidacy status.
2. Filing a request for check on completion of requirements in the Graduate Office prior to the appropriate deadline.
3. Having completed 30 units of approved work with an overall GPA of not less than 3.0.
4. Completing satisfactorily a final comprehensive examination.
5. Receiving approval of the faculty of the School of Engineering and the Dean of Graduate Studies.

## The Program for the Master of Science in Engineering

Qualifications for the Master of Science in Engineering requires the following:

1. Completion of a minimum of 30 units of approved upper division or graduate-level work including:
  - (a) a minimum of six units of approved upper division or graduate mathematics (certain engineering courses may fulfill this requirement).
  - (b) a minimum of 15 units of approved 500 level courses.
2. An overall GPA of 3.0.

A candidate for the Master of Science in Engineering may pursue one of five options currently offered by the School of Engineering:

Electrical engineering

Mechanical and aerospace engineering

Structural engineering and engineering mechanics

Systems engineering

Engineering science

A student is normally required to select a minimum of 15 units within these options. These 15 units may be 400-level and 500-level courses. The 400-level courses are listed in the undergraduate program (preceding) and the 500-level courses are listed below:

## Electrical Engineering

	Units
Egr 501A, B Microwaves	3, 3
Egr 503 Information Theory and Coding	3
Egr 504 Linear Network Synthesis	3
Egr 505 Nonlinear Control Systems	3
Egr 506 Advanced Digital Computer Systems	3
Egr 507 Statistical Communication Theory	3
Egr 513 Optimal Control Systems	3
Egr 514A, B Software Systems Design	3, 3
Egr 515A, B Quantum Electronics	3, 3
Egr 521A, B Antenna Theory	3, 3
Egr 523 Solid State Devices and Integrated Circuits	3
Egr 553A, B Plasma Dynamics	3, 3
Egr 554 Hybrid Computation	3
Egr 555 Electromagnetic Field Theory	3
Egr 557 Sampled-Data Systems	3
Egr 559 Active Network Synthesis	3
Egr 570 Seminar in Electrical Engineering	1-3
Egr 596A, B, C, D Special Topics in Engineering	1-3



**Mechanical and Aerospace Engineering**

Units

Egr 508	Intermediate Fluid Mechanics	3
Egr 511	Advanced Dynamics	3
Egr 512	Gyrodynamics	3
Egr 516	Advanced Principles of Heat Transfer	3
Egr 518	Advanced Fluid Mechanics	3
Egr 520	Incompressible Boundary Layer Theory	3
Egr 522	Theory of Hydrodynamic Lubrication	3
Egr 524	Advanced Thermodynamics	3
Egr 525	Compressible Boundary Layer Theory	3
Egr 530	Advanced Strength of Materials	3
Egr 569	Orbital Mechanics	3
Egr 573	Aerospace Guidance Systems	3
Egr 575	Kinetic Theory and Statistical Thermodynamics	3
Egr 596A, B, C, D	Special Topics in Engineering	1-3

**Structural Engineering and Engineering Mechanics**

Egr 509	Theory of Plates and Shells	3
Egr 510	Numerical and Approx Meth. in Structural Mech.	3
Egr 511	Advanced Dynamics	3
Egr 517	Theory of Inelasticity	3
Egr 518	Advanced Fluid Mechanics	3
Egr 519	Advanced Structural Mechanics	3
Egr 530	Advanced Strength of Materials	3
Egr 545	Advanced Structural Design	3
Egr 547	Advanced Dynamics of Structures	3
Egr 549	Theory of Elastic Stability	3
Egr 577	Reliability Analysis of Structures	3
Egr 596A, B, C, D	Special Topics in Engineering	1-3

**Systems Engineering**

Egr 403	Computer Methods in Numerical Analysis	3
Egr 404	Analog Computation	2
Egr 404L	Analog Computation Laboratory	1
Egr 416	Feedback Control Systems	3
Egr 423	Engineering Probability and Statistics	3
Egr 491	Analytical Methods in Engineering	3
Egr 581	Linear Systems Engineering	3
Egr 582	Estimation Theory in Systems Engineering	3
Egr 585	Optimization Techniques in Systems Engineering	3
Egr 587	Operational Analysis Techniques in Systems Engineering	3
Egr 592	Advanced Engineering Analysis	3
Egr 596A, B, C, D	Special Topics in Engineering	1-3

(Up to nine units in systems engineering may be selected from approved subjects offered in the School of Business Administration and Economics.)

Engineering

Engineering Science

The program in engineering science is to be selected by the student and his adviser and submitted for approval to a committee of the School of Engineering (supplemented, if appropriate, by members of the science and mathematics faculty). The courses selected are to meet a special and specific engineering science objective of the student, such as engineering physics.

In addition to those courses offered in the specific options, the following three courses apply to any option, though they are not necessarily required.

	Units
Egr 597 Project .....	1-6
Egr 598 Thesis .....	1-6
Egr 599 Independent Graduate Research .....	1-3

For further information, consult the School of Engineering.  
See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.



# DEPARTMENT OF ETHNIC STUDIES

Associate Professors: Evans, Serrin (Chairman)

Assistant Professors: Finley, Gotsdager

Lecturer: Vega

## BACHELOR OF ARTS IN ETHNIC STUDIES

This degree program is designed to provide an effective vehicle for meeting a variety of needs in contemporary higher education. There are expanding opportunities for college education to students who have long been underrepresented due to cultural differences between their experiences and the cultural emphasis of higher education, providing for personal collaboration between faculty and students of diverse cultural backgrounds, reviving curriculum and promoting research to give all students and faculty an understanding of the needs of all ethnic groups in past and present, and providing an environment for innovative teaching and research in innovative teaching of teaching students in cultural studies.

# ETHNIC STUDIES

## Afro-American Studies Option

The required minimum for the major is 16 units: Ethnic Studies 101, and 102 \*

The purpose of the Afro-American studies option is to provide a specialization in Afro-American studies within the framework of a more generalized and comprehensive ethnic studies perspective; to provide greater flexibility and more choices within the ethnic studies program to meet the variety of needs and interests of the diverse group of students selecting this option; to assist students with the problems, successes and failures of America's largest minority group; to help students understand the nature of contemporary ethnic and racial turmoil and guide them into constructive modes of thought about current issues; to enable students to see the black experience in America in a world setting; and to enable students to lead more effective lives in a culturally pluralistic and rapidly changing society.

Core Courses: (6 units required)

Under

One of the courses listed below

1

110 Mexican Heritage (3)

115 The American Indian (3)

240 Black History: Black and White Versions (3)

And one of the courses listed below

1

120 Cultural Sense of Oppression (1)

260 Cultural Identity and Contemporary Mexican and Black Man (1)

Upper division: (a minimum of 24 upper division units from the following courses)

24

301 Afro-American Culture (3)

303 Ancient and Modern African Culture (3)

309 The Black Family (3)

315 European, African, American and Western Civilization (2)

401 Black American and Contemporary Issues (3)

402 Africa and Self-Determination (1)

403 Africans and Black Americans (3)

466 Black American from Slavery to Jim Crow (3)

467 Black American Since 1890 (3)

999 Independent Study (1-3)

\* Student can be exempted from Ethnic Studies 101 and/or 102 by an instructor and/or the consent of the department.





# DEPARTMENT OF ETHNIC STUDIES

Associate Professors: Fuentes, Serros (Chairman)

Assistant Professors: Finnie, Gethaiga

Lecturer: Vega

## BACHELOR OF ARTS IN ETHNIC STUDIES

This degree program is designed to provide an effective vehicle for meeting a variety of needs in contemporary higher education. These are: extending opportunities for college education to students who have long been under-represented due to cultural differences between their experiences and the cultural emphasis of higher education; providing for personal consultation between faculty and students of diverse cultural backgrounds; revising curriculum and promoting research to give all students and faculty an understanding of the interaction of ethnic groups in past and contemporary civilizations; and conducting continuous research in innovative teaching methods and courses to create more effective means of teaching students in culturally pluralistic environment.

### Afro-American Studies Option

The required minimum for the major is 36 units: Ethnic Studies 101, and 102 \* or 103 \* and six additional units from lower division offerings and a minimum of 24 units in upper division courses.

The purposes of the Afro-American studies option are: to provide a specialization in Afro-American studies within the framework of a more generalized and comprehensive, ethnic studies perspective; to provide greater flexibility and more electives within the ethnic studies program to meet the variety of needs and interests of the diverse group of students selecting this option; to acquaint students with the problems, successes and failures of America's largest minority group; to help students understand the nature of contemporary ethnic and social turmoil and guide them into constructive modes of thought about current issues; to enable students to see the black experience in America in a world setting; and to enable students to lead more effective lives in a culturally pluralistic and rapidly changing society.

### Core Courses: (6 units required)

One of the courses listed below \_\_\_\_\_ 3

- 220 Mexican Heritage (3)
- 230 The American Indian (3)
- 240 Black History: Black and White Versions (3)

And one of the courses listed below \_\_\_\_\_ 3

- 250 Cultural Scars of Oppression (3)
- 260 Cultural Identity and Contemporary Mexican and Black Man (3)

Upper division: (a minimum of 24 upper division units from the following courses) \_\_\_\_\_ 24

- 301 Afro-American Culture (3)
- 303 Ancient and Modern African Culture (3)
- 309 The Black Family (3)
- 345 European, African, American and Western Civilization (3)
- 401 Black American and Contemporary Issues (3)
- 402 Africa and Self-Determination (3)
- 403 Africans and Black Americans (3)
- 466 Black American from Slavery to Jim Crow (3)
- 467 Black American Since 1890 (3)
- 499 Independent Study (1-3)

\* Students can be exempted from Ethnic Studies 102 and/or 103 by an examination and/or the consent of the department.

## Mexican-American Studies Option

The required minimum for the major is 36 units: Ethnic Studies 101 and 102 \* or 103 \* and six additional units from the lower division offerings and a minimum of 24 units in upper division courses.

The purposes of the Mexican-American Studies option are: to provide a specialization in Mexican-American Studies within the framework of a more generalized and comprehensive, ethnic studies perspective; to provide greater flexibility and more electives within the ethnic studies program to meet the variety of needs and interests of the diverse group of students selecting this major; to acquaint students with the problems, successes and failures of Orange County's largest minority group; to help students understand the nature of contemporary ethnic and social turmoil and guide them into constructive modes of thought about current issues; to enable students to see the brown experience in America in a world setting; to enable students to lead more effective lives in a culturally pluralistic and rapidly changing society; and to prepare students to work more effectively in Spanish-speaking areas.

Core Courses: (6 units required)	Units
One of the courses listed below _____	3
220 Mexican Heritage (3)	
230 The American Indian (3)	
240 Black History (3)	
And one of the courses listed below _____	3
250 Cultural Scars of Oppression (3)	
260 Cultural Identity and the Contemporary Mexican and Black Man (3)	
Upper division: (a minimum of 24 upper division units from the following courses) _____	24
302 Ancient Mexican Culture (3)	
305 The Chicano Family (3)	
306 Barrio Studies (3)	
307 Barrio Studies (3)	
336 Main Trends in Spanish-American Literature (3)	
420 Spanish for the Elementary School Teacher in the Barrio (3)	
430 Canción del la Raza (3)	
433 Mexican Literature since 1940 (3)	
440 Mexican Intellectual Thought (3)	
450 The Mexican-American and Contemporary Issues (3)	
453 Mexico since 1910 (3)	
499 Independent Study (1-3)	

\*Students can be exempted from Ethnic Studies 102 and/or 103 by an examination and/or the consent of the department.



# SCHOOL OF INTERDISCIPLINARY STUDIES

Director: David M. Feldman

## AMERICAN STUDIES PROGRAM

Associate Professor: Pivar (Coordinator), Weaver

### BACHELOR OF ARTS IN AMERICAN STUDIES

The degree in American Studies is an interdisciplinary program within the School of Interdisciplinary Studies. It is designed for students with a special interest in the study of the United States, drawing on the expertise of scholars representing a wide range of disciplines.

The program is designed for students with a special interest in the study of the United States, drawing on the expertise of scholars representing a wide range of disciplines. The program is designed to allow students to discover the deeper relationships among disciplines and to develop a better sense of the whole.

# INTERDISCIPLINARY STUDIES

of study, may be obtained for students enrolled in the interdisciplinary program. American studies is useful for any career in which an understanding of American culture is important. Specialized careers in American studies, leading to the Ph.D., are also available.

Since two alternative programs are available, the student interested in beginning a major must consult with an American studies counselor to develop a course of study mutually satisfactory.

### American Studies Program

The major consists of 36 units distributed as follows:

I. Core program (12 units) required of all majors:

- 201 Introduction to American Studies (1)
- 301 The American Character (1)
- 110 Seminar in Theory and Method of American Studies (3)
- 401 Prospectus in American Studies (3)

II. Alternative plan (24 upper division units in either plan)

- a. The student may choose to work in two but not more than three disciplines related to the American experience, i.e.: history and literature or sociology, anthropology and political science.
- b. The student may choose to pursue a specialized degree or subject, i.e.: race culture, urbanization or ethnic groups in American society.

Students interested in the American studies major must consult with the coordinator of the program before establishing individual course of study.

## INTERDISCIPLINARY CENTER PROGRAM

Professor: Otter (Coordinator)

The Interdisciplinary Center was created out of the conviction that much of the real excitement happening in the intellectual world today (and probably other times as well) is at the boundary line where traditional disciplines converge. The concrete reality of the human situation raises problems amenable to no facile descriptions or easy solutions—certainly none that any one discipline can yield.





# SCHOOL OF INTERDISCIPLINARY STUDIES

Director: David M. Feldman

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## AMERICAN STUDIES PROGRAM

Associate Professors: Pivar (Coordinator), Weaver

### BACHELOR OF ARTS IN AMERICAN STUDIES

The degree in American studies is an interdisciplinary program within the School of Interdisciplinary Studies. It is administered through a committee of scholars representing various disciplines.

The program is designed for students with a special interest in the American experience, including the overseas experience. It permits through intensive study of the United States greater perception of American society both contemporary and historical. By developing the program to allow students to discover the larger relationships among disciplines the student may receive a better sense of the whole.

The American studies degree prepares students for teaching either on the elementary or secondary level. Credentialing, usually handled during the fifth year of study, may be obtained for students enrolled in this interdisciplinary program. American studies is useful for any career in which an understanding of American culture is important. Specialized careers in American studies, leading to the Ph.D., are also available.

Since two alternative programs are available, the student interested in becoming a major must consult with an American studies counselor to develop a course of study mutually satisfactory.

### American Studies Program

The major consists of 36 units distributed as follows:

#### I. Core program (12 units) required of all majors.

- 201 Introduction to American Studies (3)
- 301 The American Character (3)
- 350 Seminar in Theory and Method of American Studies (3)
- 401 Proseminar in American Studies (3)

#### II. Alternative plan (24 upper division units in either plan)

- a. The student may choose to work in two but not more than three disciplines related to the American experience; i.e.: history and literature or sociology, anthropology and political science.
- b. The student may choose to pursue a specialized theme or subject; i.e.: mass culture, urbanization or ethnic groups in American society.

Students interested in the American studies major must consult with the coordinator of the program before establishing individual course of study.

## INTERDISCIPLINARY CENTER PROGRAM

Professor: Obler (Coordinator)

The Interdisciplinary Center was created out of the conviction that much of the real excitement happening in the intellectual world today (and probably other times as well) is at the boundary lines where traditional disciplines converge. The concrete reality of the human situation raises problems amenable to no facile descriptions or easy solutions—certainly none that any one discipline can yield.

## Latin American Studies

We are coming more and more to recognize the need for diverse perspectives—that whether we are confronting the immense complexity of the modern city or the subtle dimensions of love or anxiety, no single frame of reference or specialized knowledge can be sufficient.

Many of the courses now offered or planned by the Center lie outside the province of any single department or academic discipline. They challenge students and professors alike to utilize their specialized knowledges and yet to go beyond them. A subject like love may be approached from historical, psychological, aesthetic or philosophical perspectives. Several courses (*Psychology and Literary Criticism*, *Social Sciences and Humanities: A Critical Analysis*) utilize the complementary methodologies of the physical sciences, social sciences, or humanities. It follows that interdisciplinary courses frequently involve two or more professors and feature guests from outside the academic community. Many courses are of a frankly experimental nature, often one-time journeys into strange seas, perhaps ill-fated. Many can be used as credits toward upper-level general education or are cross-listed with several majors. The Center is interested in new courses or innovative programs; it welcomes suggestions from students or all other members of the academic community.

### LATIN AMERICAN STUDIES PROGRAM

Professors: Beck (History), D. Feldman (Linguistics), Richardson (Political Science)

Associate Professors: Arana (Foreign Languages), Yinger (Political Science)

Assistant Professors: Baker (History), Christensen (Anthropology), Flickema (History), Ketteringham (Coordinator), Mend (Sociology)

Lecturers: Baden (Foreign Languages)

The School of Interdisciplinary Studies coordinates a program in Latin American studies taught by faculty from numerous fields with special training and field work in Latin America.

The program is designed for students desiring a general education with specific knowledge about Latin America. It is designed for students planning careers which will necessitate residence in or knowledge of Latin America, such as teaching, business, scientific research, engineering, journalism or government service. It is also designed for students who are planning to teach Spanish or social studies in the secondary schools. The program serves as a sound base for students preparing for graduate work in Latin American studies or in specific disciplines with a specialization in the region of Latin America.

No degree currently is offered in Latin American studies but the following program, presently available at the college, can be used to complement a regular degree program. It is the program currently proposed by the college's committee on Latin American studies.

#### Foundation Courses:

*Language:* All students in the program should develop a proficiency level in language measured by Spanish 204 and Portuguese 102. (This need may be met by completion of the above courses, their equivalents, or by passing requirements as stated by the Department of Foreign Languages.)

*Social Science:* Anthropology 202 Introduction to Cultural Anthropology (3)

#### Recommended Core Courses:

*Language:* Spanish 317 Advanced Conversation and Composition (3)

*Literature:* Spanish 441 Spanish American Literature from Modernismo to the



Present (3)

*History and Culture:* Spanish 316 Introduction to Spanish American Civilization (3)

**Recommended Selected Concentrations:** 15 units selected from three or more of the following groupings:

*Culture:*

Portuguese 315 Introduction to Brazilian Culture and Civilization (3)

Portuguese 325 Contemporary Brazilian Civilization (3)

Anthropology 322 Peoples of Mesoamerica (3)

Anthropology 325 Peoples of South America (3)

Sociology 460 Comparative Institutions: Latin America (3)

*Fine Arts and Literature:*

Spanish 440 Spanish American Literature from The Conquest to 1888 (3)

*History and Politics:*

History 450 Change in Contemporary Latin America (3)

History 453 History of Mexico (3)

History 454 Argentina, Brazil, Chile (3)

Political Science 437 Government and Politics of Developing Systems: Latin America (3)

Political Science 438 Latin American Interest Groups (3)

Political Science 463 International Relations and Problems of Latin America (3)

*Geography and Economics:*

Geography 434 Geography of Latin America (3)

Geography 464 Man and Geographic Relationships in Latin America (3)

Economics 333 Economic Development: Analyses and Case Studies (3)

Economics 330 Comparative Economic Systems (3)

## PROGRAM IN LINGUISTICS

Professors: D. Feldman\* (Coordinator), Fessenden (Speech Communication), Nelson (Speech Communication), Schneider (English), Sears (English)

Associate Professors: Kaplan (Speech Communication), Riley (Speech Communication), See (Anthropology), Silvers (Philosophy), Zimmermann (Foreign Languages and Literatures)

Assistant Professors: Cartledge (Foreign Languages and Literatures), Christensen (Anthropology), Harris (Speech Communication), Mayer (Foreign Languages and Literatures), Treon (Speech Communication)

Linguistics is the scientific study of language—its nature and development, its universal properties, its diversified structures and their dialectal variants, its acquisition by children and non-native speakers, its systems of writing and transcription, its cultural role in the speech community, and its application to other areas of human knowledge. As such, it is concerned with the multiple aspects of human communicative behavior which encompass thought, symbolization, language, meaning, acoustics, perception and the physiological processes of utterance and audition.

The interdisciplinary aspects of this study are reflected in the organization of the program which not only offers its own core of general linguistics courses for linguistics credit but recognizes credit for linguistically-related courses in other departments of the college.

## BACHELOR OF ARTS IN LINGUISTICS

This program is designed for students with an exceptional interest in and aptitude for the study of the systems of human communication. It enables the undergraduate

\* College administrative officer.

## Linguistics

student to perceive the function of language in the development of civilization; to understand the essential relationships between language and thought and language and culture; to gain substantial familiarity with the structure of foreign languages as well as English; to observe several types of linguistic structures; and to become conversant with the historical study of language and formal techniques and theoretical foundations of linguistic analysis. The program will enable the student with linguistic and philological interests to grasp the scope of the entire field and, in addition, to determine more accurately the most meaningful concentrations in graduate study.

### Lower Division Requirements

- One year of Latin, Greek, Hebrew or Sanskrit (6)
- Anthropology 202 Introduction to Cultural Anthropology (3)
- Philosophy 210 Logic (3)

### Upper Division Requirements (minimum of 30 units)

- 317 course in a modern foreign language (3)
- Linguistics 341 Introduction to Phonetics (3)
- Linguistics 404 General Semantics (2)
- Linguistics 406 Descriptive Linguistics (3)
- Linguistics 410 Language and Culture (3)
- English 490 History of the English Language (3)
- Linguistics 490 Linguistics in Relation to Other Disciplines (1-4)
- Linguistics 530 Historical Linguistics (3)

### Two electives (or more) from the following:

- English 303 Structure of Modern English (3)
- French, German, Russian or Spanish Course 400 (3)
- Linguistics 375 The Philosophy of Language (3)
- Linguistics 402 Phonetic Analysis of Speech (3)
- Linguistics 411 Bilingualism (3)
- Linguistics 412 Sociolinguistics (3)
- Mathematics 304 Mathematical Logic (3)
- Mathematics 305 Elements of Set Theory (3)
- Mathematics 335 A,B Probability and Mathematical Statistics (3)
- Philosophy 368 Symbolic Logic (3)
- Psychology 161 Elementary Statistics (3)
- Quantitative Methods 364 Computer Logic and Programming (3)
- Speech Communication 403 Speech and Language Development (3)

Students must consult with an adviser in linguistics before establishing their individual programs of study.

### MASTER OF ARTS IN LINGUISTICS

The M.A. in Linguistics is designed for students who have exceptional interest in and aptitude for the study of the systems of human communication, reinforced by undergraduate study in linguistics and allied areas, such as foreign languages, English language, anthropology, speech communication and related areas in psychology and philosophy. It enables the graduate student to study in depth the position and function of human communication systems in the development of civilization; to understand more fully the essential relationships between thought, language and culture; to deepen mastery of the structure of foreign languages as well as English; to work intensively with several types of linguistic structures with special attention to non-Indo-European languages; and to increase expertise in the historical study of language and formal techniques and theoretical foundations of linguistic analysis.



The core courses of the program are devoted to an in-depth consideration of descriptive, historical and applied linguistics. The balance of the program will combine advanced work in the theory of phonemic, morphological and syntactical analysis, articulatory and experimental phonetics, semantics, lexicology, dialectology, language typology and field methods, in which the procedures of the linguist working under field conditions will be demonstrated by the analysis of several languages elicited from informants. A variety of approaches to descriptive analysis and several theoretical points of view, both American and European, including generative grammar, transformational analysis and prosodics will be presented. A series of courses on the structure of individual languages, both ancient and modern, will provide the opportunities for applying the general principles of structural analysis and for establishing linguistic data by elicitation from informants and analysis of written records. The languages examined will be drawn from a wide variety of language families including the more familiar members of the Indo-European group. General courses in comparative linguistics and comparison within individual language families will review methods of establishing genetic relationships among languages; the geographical diffusion of linguistic features and problems of language contact will be studied by examining areal groupings of genetically unrelated languages. The relationship between linguistics and other disciplines and the application of the techniques, findings, and insights of that science to such activities as language teaching will be treated in courses and seminars of an interdisciplinary nature.

The aim of the graduate program in linguistics, as reflected in the course offerings, is to provide thorough and well-balanced training for practice and research in the several areas of linguistic studies.

#### Course requirements

#### Units

Coursework in descriptive, historical and structural linguistics	13
Linguistics 501 Research Methods and Bibliography (1)	
Linguistics 505 Phonetics and Phonemics (3)	
Linguistics 507 Seminar: Morphosyntax (3)	
Linguistics 508 Theories of Syntax (3)	
Linguistics 530 Historical Linguistics (3)	

Coursework selected from any one of the following six areas of sub-specialization

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#### Applied Linguistics

English 303 The Structure of Modern English (3)	
Linguistics 411 Bilingualism (3)	
French 466 Introduction to French Linguistics (3)	
German 466 Introduction to German Linguistics (3)	
Spanish 466 Introduction to Spanish Linguistics (3)	
Foreign Languages Ed 520 Advanced Seminar in Applied Linguistics (3)	
Linguistics 584 Linguistics and Reading (3)	
English 599 Independent Graduate Research (1-3)	
French 599 Independent Graduate Research (1-3)	
German 599 Independent Graduate Research (1-3)	
Spanish 599 Independent Graduate Research (1-3)	
Linguistics 599 Independent Graduate Research (1-3)	

#### Anthropological Linguistics

Linguistics 411 Bilingualism (3)	
Linguistics 412 Sociolinguistics (3)	
Linguistics 592 Field Methods (3)	

- Linguistics 593 Language Typology (3)
- Anthropology 599 Independent Graduate Research (1-3)
- Linguistics 599 Independent Graduate Research (1-3)

## Analysis of Specific Language Structures

- French 500 Graduate Seminar: Advanced Structure and Style (3)
- German 500 Graduate Seminar: Advanced Structure and Style (3)
- Spanish 500 Graduate Seminar: Advanced Structure and Style (3)
- French 510 Phonology (3)
- German 510 Phonology (3)
- Spanish 510 Phonology (3)
- French 530 Historical Linguistics (3)
- German 530 Historical Linguistics (3)
- Spanish 530 Historical Linguistics (3)
- French 520 Old French (3)
- English 570 Graduate Seminar: Language Studies (3)
- English 599 Independent Graduate Research (1-3)
- Spanish 599 Independent Graduate Research (1-3)
- French 599 Independent Graduate Research (1-3)
- German 599 Independent Graduate Research (1-3)
- Linguistics 599 Independent Graduate Research (1-3)

## Experimental Phonetics

- Linguistics 402 Phonetic Analysis of Speech (3)
- Speech Communication 403 Speech Development (3)
- Speech Communication 543 Major Problems in Speech Pathology and Audiology (3)
- Linguistics 540 Seminar in Experimental Phonetics (3)
- Speech Communication 599 Independent Graduate Research (1-3)
- Linguistics 599 Independent Graduate Research (1-3)

## Communication and Semantics

- Linguistics 411 Bilingualism (3)
- Linguistics 412 Sociolinguistics (3)
- Linguistics 504 Graduate Seminar: Semantics (3)
- Linguistics 515 Psycholinguistics (3)
- Philosophy 450 Seminar: Philosophy of Language (3)
- Speech Communication 599 Independent Graduate Research (1-3)
- Anthropology 599 Independent Graduate Research (1-3)
- Linguistics 584 Linguistics and Reading (3)
- Linguistics 599 Independent Graduate Research (1-3)

## Disorders of Communication

- Speech Communication 403 Speech Development (3)
- Speech Communication 441 Speech Pathology: Nonorganic Disorders (3)
- Speech Communication 443 Speech Pathology: Organic Disorders (3)
- Speech Communication 451 Diagnostic Methods in Speech and Hearing (3)
- Speech Communication 452 Therapeutic Procedures in Speech and Hearing (3)
- Speech Communication 463 Audiology (3)
- Speech Communication 464 Audiometry (3)
- Linguistics 540 Seminar in Experimental Phonetics (3)
- Speech Communication 557A-I Seminar in Speech Pathology (3)
- Speech Communication 563 Seminar in Audiology (3)



Speech Communication 599 Independent Graduate Research (1-3)	
Linguistics 599 Independent Graduate Research (1-3)	
Coursework in a related field .....	6
Linguistics 597 Project (2).....	2
<b>Total</b> .....	<b>30</b>

#### Admission to the Graduate Program

In addition to fulfilling all general prerequisites for graduate work established at California State College, Fullerton, an applicant, in order to gain admission to this program, must hold a bachelor's or equivalent degree with a major in linguistics consisting of 24 upper division semester credit hours, or equivalent, in the field, with grades testifying to above-average scholarship from an accredited institution. Those having degrees with other related majors may be admitted if they have completed the following courses or their equivalents. These prerequisites may be fulfilled concurrently with graduate coursework in the program.

Linguistics 406 (3)

English 490 (3)

Linguistics 410 (3)

Linguistics 490 (1)

Knowledge of one foreign language is required. Students without coursework in a foreign language may demonstrate proficiency by a score of "average" or better on the MLA-ETS Proficiency Examination for Advanced Students. Work toward fulfillment of this requirement may be taken concurrently with graduate coursework in linguistics.

#### LABORATORY FOR PHONETIC RESEARCH

See description appearing on page 37.

For further information, consult the coordinator of the program in linguistics. Also see "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

### RELIGIOUS STUDIES PROGRAM

Professors: Fierman (Education), Gard (Coordinator)

Assistant Professors: McLaren (Education)

#### BACHELOR OF ARTS IN RELIGIOUS STUDIES

This program leads to the B.A. in Religious Studies and is designed to encourage students to acquire the intellectual tools and scholarly background required for a critical understanding of the forms and traditions of religion that have appeared in human culture.

Students in fields other than religion are encouraged to ask the questions which pertain to the real excitement at the boundary lines where the usual studies converge. The aim of each course is an open and nontraditional examination of ultimate questions as they apply to contemporary situations. The relevance of belief in both Eastern and Western civilizations for the cultural development of man is examined. Guest lecturers from fields other than religion present their understanding of the art of living and of loving. An understanding of prejudice, war and other dimensions of religious value systems may thus be gained.

#### Major in Religion

Six hours of introduction to world religions and a senior seminar on contemporary religious issues, plus six hours each from one of three fields (history and sociology of religion, phenomenology of religion, comparative religion) and two years or their equivalents of college level language are required for the B.A. in Religious Studies.

## **Russian Area Studies**

### **Courses in Religious Studies**

- 303 Rabbinic Literature: The Writings of Law and Lore (3)
- 304 Religion and the Cultural Crisis (3)
- 305 Hebrew Prophets (3)
- 306 Wisdom Literature (3)
- 307 Dimensions of Religion (3)
- 308 Judaism: From the Beginning to the Middle Ages (3)
- 309 Judaism: From the Middle Ages to the Present (3)
- 310 History and Development of Christianity (3)
- 406 Anxiety, Guilt and Freedom (3)
- 410 Theology and Contemporary Life (3)
- 420 The Worlds of Martin Buber, "The Philosophy and Theology of Martin Buber"
- 425 Religion in Western Culture (3)
- 485 Major Contemporary Religious Thinkers (3)
- 486 Major Contemporary Religious Topics (3)
- 499 Independent Study (1-3)

Courses in other schools and departments which bear the word "religion" in their title are acceptable upon consultation with the Coordinator of Religious Studies.

## **RUSSIAN AREA STUDIES PROGRAM**

Associate Professors: R. Feldman (Coordinator), Helin (Geography), Kerschner (Political Science), Tumas (English), Yessis (Physical Education)

Assistant Professors: Mayer (Foreign Languages), Pickersgill (Economics)

Lecturers: Erohina (Foreign Languages), Shippee (Political Science)

### **BACHELOR OF ARTS IN RUSSIAN AREA STUDIES**

The Russian area studies major is an interdisciplinary program designed for students interested in the language, literature, politics, history, economics, ideology, customs and geography of the Soviet Union. In addition to fulfilling the various cultural objectives common to any liberal arts program, the Russian area studies major provides a foundation for teaching the Russian language and social studies on the elementary and secondary levels. This major serves especially the needs of students intending to pursue graduate studies and those who foresee employment in professions that demand a regional as well as traditional orientation.

#### **Unit Requirements**

To qualify for this major a student must complete (1) 16 units of Russian language or their equivalent, (2) 24 units of upper division Russian area courses from at least four of the following fields: comparative literature, economics, geography, political science, history, foreign language, (3) 15 units of upper division coursework in a related discipline to be determined in consultation with a Russian area counselor.

## **PROGRAM IN SOCIAL SCIENCES**

Associate Professor: Giacomakis (Coordinator)

### **MASTER OF ARTS IN SOCIAL SCIENCES**

The Master of Arts in Social Sciences is designed with three possible objectives in view: to provide a broader and more integrated disciplinary background for students later interested in working toward the doctorate in any one of the specific fields of social sciences or in the general area of social sciences; to prepare sec-



ondary and elementary school teachers to introduce the social sciences in a more modern and sophisticated way so that the social studies curriculum can be upgraded; and to provide opportunities for students with strong interests in interdisciplinary programs to work out custom-tailored programs which will serve their interests.

**Prerequisites**

An incoming student must have an undergraduate major or the equivalent in one of the social sciences and a minor in another. The coordinator will determine equivalence to major and minors.

An incoming student must have a grade-point average of 3.0 in upper division (undergraduate) social sciences courses.

**Program of Study****I. Social Sciences Core**

500 The Social Sciences in the Modern World: Major Findings, Concepts and Theories (3)

501 The Social Sciences in the Modern World: Basic Skills and Human Dimensions (3)

**II. Multidisciplinary Core**

This part of the program is to be made up of 21 units in at least *three* social science fields. Twelve of these units must be 500-level or graduate courses. The same three fields should be represented in the 12 graduate units.

**III. Project**

Every student will prepare a project, the norm of which will be a written research essay, but particulars of which will be defined by the committee for the student. Projects will be tailored to reflect the interdisciplinary effort.

The social sciences include the following related fields: anthropology, economics, geography, history, political science, psychology and sociology.

**TECHNOLOGICAL STUDIES PROGRAM**

Lecturer: Chapman (Coordinator)

The technological studies program was established to conduct special programs of studies and to provide course offerings which cut across related disciplines. Activities of the technological studies program are interdisciplinary and include a reference center and curriculum in technological studies as well as special activities such as the *Technological Studies Review*, a periodical devoted to the field.

This program brings together courses from several disciplines on the nature and impacts of technology and methods of analysis. The general focus of the program is on study of interdisciplinary methods and techniques for analyzing technological change; technology transfer and applications; and analysis of the impacts of technological change on society.

The program provides an area for special study within recognized major fields of studies. Students may take separate courses or develop an individualized program of studies based on courses, directed readings and research participation. Wherever possible courses are conducted as seminars and bring together lecturers from relevant disciplines included in the sciences and humanities. Through independent studies students are encouraged to pursue topics or problems of special interest beyond the scope of regular courses under the supervision of a faculty adviser. The technological studies program is directly coordinated with the American studies program of the School of Interdisciplinary Studies and with other departments of the college.

## Technological Studies

### Technological Studies Program

*Man and Technology*, a program developed jointly between the technological studies program and the School of Engineering, directed to the study of man in the man-made world, the relationship between technology and the human condition. The program (1) enables engineering students to meet social science and general education requirements of the School of Engineering by engaging in studies closely akin to their major studies; (2) provides a general course of study for students of other technologically oriented disciplines of the college; (3) makes available to nonengineering students a set of general education courses in the analysis and solution of engineering problems; and (4) provides a meeting ground for faculty and students concentrating in different fields of study through participation in interdisciplinary studies of technology.

### Courses in Technological Studies

- |                              |                                                                    |
|------------------------------|--------------------------------------------------------------------|
| Technological Studies 100    | Introduction to Technological Studies (3)                          |
| Technological Studies 110A   | Man-Made World (3)                                                 |
| Technological Studies 110B   | Man-Made World (3)                                                 |
| Technological Studies 111A   | Laboratory: Man-Made World (1)                                     |
| Technological Studies 111B   | Laboratory: Man-Made World (1)                                     |
| Technological Studies 201    | Society and Technology (3)                                         |
| Technological Studies 464    | Technology and Ideology (3)                                        |
| Interdisciplinary Center 499 | Independent Study (1-3)                                            |
| Interdisciplinary Center 799 | Independent Study (1-3)                                            |
| Economics 370                | Economics of Research and Development and Technological Change (3) |
| Engineering 100A, B          | Introduction to Analysis (3)                                       |
| Engineering 101              | Introduction to Engineering (1)                                    |
| Engineering 417              | Engineering Economy (3)                                            |
| Engineering 423              | Engineering Probability and Statistics (3)                         |
| History 491                  | Proseminar: The American Response to Technological Development (3) |
| Science Ed 461               | Development of Science and Technology (3)                          |
| Science Ed 470               | Evolution of Scientific Ideas (3)                                  |
| Management 545               | Research and Development Project Management (3)                    |



# SCHOOL OF LETTERS, ARTS AND SCIENCES

Dean: Hazel E. Jones

## DEPARTMENT OF ANTHROPOLOGY

Professor: Coarctatus\*

Associate Professor: Loder (chairman), Six

Assistant Professor: Christensen, de Raa, Frank-Hartley, Kopp, Ruppel

Lecturers: Egan, Hays, Katz, Wicklund

### BACHELOR OF ARTS IN ANTHROPOLOGY

The major in anthropology is designed to provide students with a broad background, emphasizing the biological and cultural aspects of the discipline. The program is designed to provide students with a broad background, emphasizing the biological and cultural aspects of the discipline. The program is designed to provide students with a broad background, emphasizing the biological and cultural aspects of the discipline.

# LETTERS, ARTS AND SCIENCES

### Courses in Anthropology

Thirty-three units must be taken in anthropology; 18 in upper division courses. Anthropology 201, 202, 203, 401, 410, 419 and 460 are required. One course is required from art offerings in the field: Anthropology 311, 312, 313, 314, 341, 345, 347, 350, 359 and 361. Two courses are required from theoretical/institutional courses in the field: Anthropology \*315, \*316, 361, \*362, 311, 312, 313, \*314, 420, 411, \*421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, \*433 and 460. (The courses marked \* are correlated with other departments' and programs. They may be used to satisfy the major requirement for either the degree in anthropology or related courses.)

Minimum units ..... 18

### Related Courses

Twelve upper division units are to be taken in the related social science fields of economics, geography, history, political science, sociology, and psychology, to be approved by the major adviser. Advanced work in biological science, the fine and applied arts, and the humanities may be substituted for these units by students with specialized interest with the approval of their advisers. Students interested in specializing in anthropological disciplines are urged to take courses from the college's interdisciplinary program in linguistics. Students interested in specializing in physical anthropology are urged to take some of the following biological/science courses: 361 Principles of Zoology; 311 Genetics; 362 Molecular Anatomy and Physiology; 424 Evolution; 463 Comparative Vertebrate Anatomy; 465 Animal Ecology; and 471 Natural History of the Vertebrates. Students interested in specializing in primitive art are urged to take some of the following art courses: 451 Oceanic Art; 452 Art of Non-European Africa; 454 Art of North American Indians; 462 Art of Mesoamerica; 471 Art of Central and South America.

Minimum units ..... 12

Minimum total units for the major ..... 45

\* College administrative offices.





# SCHOOL OF LETTERS, ARTS AND SCIENCES

Dean: Hazel J. Jones

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## DEPARTMENT OF ANTHROPOLOGY

Professor: Untereiner \*

Associate Professors: Leder (chairman), See

Assistant Professors: Christensen, de Rios, Joesink-Mandeville, Joseph, Koepping

Lecturers: Evans, Hopa, Katz, Wicklund

### BACHELOR OF ARTS IN ANTHROPOLOGY

The major in anthropology is designed for students desiring a broad generalist background, students preparing to become teachers of social sciences, and students preparing for graduate work in anthropology and in advanced areal and international specializations.

The required minimum for the major is 45 units, in addition to those taken for the general education requirement, distributed as follows:

#### *Courses in Anthropology*

Thirty-three units must be taken in anthropology, 24 in upper division courses. Anthropology 201, 202, 203, 401, 410, 470 and 480 are required. One course is required from areal offerings in the field: Anthropology 321, 322, 325, 328, 340, 341, 345, 347, 350, 360 and 361. Two courses are required from theoretical/institutional courses in the field: Anthropology \*313, \*315, 403, \*406, 411, 413, 415, \*416, 420, 421, \*422, 423, 424, 425, 428, 429, 430, 440, 441, 450, \*453, and 460. (The courses marked \* are cross-listed with other departments and programs. They may be used to satisfy the major requirement for: either the courses in anthropology; or related courses.)

Minimum units \_\_\_\_\_ 33

#### *Related Courses*

Twelve upper division units are to be taken in the related social science fields of economics, geography, history, political science, sociology, and psychology, to be approved by the major adviser. Advanced work in biological science, the fine and applied arts, and the humanities may be substituted for these units by students with specialized interests with the approval of their advisers. Students interested in specializing in anthropological linguistics are urged to take courses from the college's interdisciplinary program in linguistics. Students interested in specializing in physical anthropology are urged to take some of the following biological science courses: 161 Principles of Zoology; 312 Genetics; 361 Mammalian Anatomy and Physiology; 424 Evolution; 463 Comparative Vertebrate Anatomy; 465 Animal Ecology; and 471 Natural History of the Vertebrates. Students interested in specializing in primitive art are urged to take many of these art courses: 451 Oceanic Art; 452 Art of Non-European Africa; 461 Art of North American Indians; 462 Art of Mesoamerica; 471 Art of Central and South America.

Minimum units \_\_\_\_\_ 12

Minimum total units for the major \_\_\_\_\_ 45

\* College administrative officer.

# Anthropology

Students considering advanced professional careers in research, teaching, or applications of anthropology are urged to explore and sample widely from course offerings in the other social sciences, the biological and natural sciences and the humanities and arts. Through a judicious selection of these courses it is hoped that Anthropology majors will broaden their interests and diversify and develop their skills in working towards a variety of individualized career objectives.

## Teaching Minor in Anthropology

The minor in anthropology is intended as a second field for persons completing a major in another discipline in preparation for a teaching credential. Twenty-one units must be taken in anthropology; 15 of these in upper division courses. Anthropology 201 or 203 and 202 and 301 are required. Two additional courses must be selected from areal offerings in the field: Anthropology 321, 322, 325, 328, 340, 345, 347, 350, 360, and 361. Another course must be selected from theoretical/institutional courses in the field: 313, 403, 406, 411, 413, 415, 416, 420, 421, 422, 423, 425, 428, 429, 430, 450, 453, and 460. A final course must be either Anthropology 401 or 480.

## MASTER OF ARTS IN ANTHROPOLOGY

The program for this degree provides advanced study of general anthropology as well as research and other learning experiences for students with specialized areas of interest or competence.

### Prerequisites

Admission to the program requires:

a) A B.A. degree with a minimum of 24 units in anthropology including the following courses or their equivalents:

- 201 Introduction to Physical Anthropology *or*
- 203 Introduction to Archaeology
- 202 Introduction to Cultural Anthropology
- 301 World Ethnography
- 401 Ethnographic Field Methods
- 410 Language and Culture
- 480 History of Anthropology

One areal course (e.g. Ant 328, Peoples of Africa)

One theoretical or topical course (e.g. Ant 415, Culture and Personality: Psychological Anthropology)

Reading courses and special examinations may be substituted for some of these prerequisites by the department.

b) A GPA of 3.0 (B) for all work taken in anthropology.

c) Evaluation and acceptance by the graduate study committee.

Students with limited subject or grade deficiencies may be considered for admission to the program upon completion of additional courses, selected by the graduate study committee, with at least a 3.0 (B) average.

### Program of Study

The study plan for the degree must include the following:

	Units
1. Ant 501 Methodology of Anthropological Research.....	3
2. Ant 502 Contemporary Theory in Cultural Anthropology.....	3
3. Ant 597 Project <i>or</i> Ant 598 Thesis.....	6
4. Two additional graduate seminars in anthropology.....	6
5. Upper division or graduate work in anthropology.....	6
6. Upper division or graduate work in related fields.....	6

30



Any adviser-approved 300- or 400-level course taken as a graduate student may be used for requirements 5 and 6. Ant 599 Independent Graduate Research may be used for requirement 5.

For continuation in the program an average of 3.0 (B) for all work in the study plan must be maintained. A thesis or a project or in unusual cases two projects must be completed for the degree. Normally a student will register for thesis or project two times, for 3 units each semester.

For further information, consult the Department of Anthropology.

See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

## **DEPARTMENT OF BIOLOGICAL SCIENCE**

Professors: Bradshaw, Brattstrom, McCarthy,\* Sutton (Chairman), Turner

Associate Professors: P. Adams, Barish, Bright, Davenport, Hanes, Rosenberg, Rothman, Walkington

Assistant Professors: Boice, Greenfield, Jones, McClanahan, McWilliams, Smith, Weintraub, Whiteside, Wilson

The Department of Biological Science offers a program leading to the Bachelor of Arts in biological science for students preparing to enter graduate and professional schools, for those preparing to teach, and for those preparing for careers in industry and government service.

It is the conviction of the faculty in biological science that the purposes of all these students can best be served by building their curricula on a core of courses fundamental to the science of biology. This core curriculum includes biological principles, ecology, genetics, microbiology, and physiology.

In considering the curricula beyond this core of subjects, the faculty has agreed that the interest and goals of individual students can best be satisfied through individual counseling rather than through prescribed programs. After discussion with their advisers, students will elect those upper division courses which will satisfy their individual interests and professional goals.

To qualify for a baccalaureate degree in biological science, students must have a C average in all courses required for the major including those in the related sciences. No credit toward the major will be allowed for biological science courses in which a grade D is obtained. A proficiency in one modern foreign language (Russian, Spanish, German, French, others by petition) is required. This requirement is normally met by completing the 203 or 303 level course in the language (e.g. German 101, 102, 303). Upon approval of the adviser, nine units of any combination of courses in quantitative methods, statistics, or advanced mathematics (above Math 150A) may be substituted for the language requirement.

Advanced students will be permitted to enroll in Biological Science 499, Independent Study. All full-time upper division students are expected to attend the departmental seminars.

The Department of Biological Science also offers a curriculum for students majoring in other fields who wish to minor in biology.

### **BACHELOR OF ARTS IN BIOLOGICAL SCIENCE**

One hundred twenty-four units including general education (see page 68), foreign language, 36 units in biology courses, and supporting courses in physical sciences and mathematics. The supporting courses must include one year of inorganic college chemistry including qualitative analysis with laboratory, two semesters of organic chemistry with laboratory, one semester of college mathematics, and one year of college physics with laboratory.†

\* College administrative officer.

† Those students seeking careers in biology at the Ph.D. level and careers in medicine should take a full year of organic chemistry, a year of analytical geometry and calculus, and quantitative chemistry with laboratory.

# Biological Science

## Minimum Course Requirements for the Major †

### Lower Division

	Units	Units
141 Principles of Botany.....	4	
161 Principles of Zoology .....	4	
	8	8

### Upper Division

#### Biological Science

305 Molecular Biology .....	4	
312 Genetics Lecture .....	3	
316 Principles of Ecology .....	3	
320 General Microbiology .....	4	
Electives—14 units, of which 4 must be outside area of emphasis.....	14	
	28	28
		36

## Minimum Requirements for Biological Science Minor †

#### Biological science

101, 141, 161 Principles.....	13
404 Evolution <i>or</i> .....	
312 Genetics <i>or</i> 313 Human Genetics .....	3
320 General Microbiology .....	4
361 Mammalian Anatomy and Physiology <i>or</i> .....	
305 Molecular Biology <i>or</i> .....	
444 Plant Physiology .....	4
	24

## MASTER OF ARTS IN BIOLOGY

The program for this degree is based on the assumption that modern science necessitates broad preparation through the master's level of training. It permits breadth of preparation and at the same time concentration in an area such as botany, microbiology or zoology. In design it offers sufficient breadth and depth to strengthen the student's academic understanding and improve his competence for (a) advanced graduate work toward the doctoral degree in biological science, (b) teaching at all levels—elementary, secondary, and junior college, (c) technological work in the health sciences, (d) participating in research programs, (e) entering the field of public health service, and (f) participating in various field service and conservation positions with both the state and national governments.

### Prerequisites

Prerequisites to classification in the M.A. program in Biology are as follows: (1) B.A. in Biological Science at CSCF or other accredited institution with a grade-point average of 3.0 in biological science and a GPA of 2.5 in the related sciences of mathematics, chemistry and physics; (2) Study plan prepared in conference with

† Substitutions in the program may be made for transfer students and others upon the recommendation of the adviser and the approval of the department chairman.



the adviser and submitted to the departmental Graduate Committee. Students with limited subject or grade deficiencies may be considered for admission to the program upon completion of 12 units of postgraduate studies in biology, mathematics, chemistry or physics, with a GPA of 3.0. These courses will be selected in conference with the adviser.

Advancement to candidacy for the M.A. in Biology will be granted after completing 15 units of coursework on the study plan with a GPA of 3.0. In addition, the student must pass the departmental qualification examination which will be offered at the beginning of each semester. Two attempts will be allowed to successfully complete this exam. The first attempt must be made no later than the semester following classification.

### Program of Study

A student who meets the prerequisites may apply for classified graduate status. He must file a study plan including 30 units of adviser-approved graduate work, at least 12 of which must be at the 500 level. The study plan may include six units of graduate level medical biology taken in an approved clinical laboratory school. All study plans must include Bio Sci 599, Independent Graduate Research, and Bio Sci 598, Thesis, and at least one departmental seminar. Six units must be outside the principal area. Further electives may be possible. Required is a thesis or a published paper, or a paper accepted for publication, acceptable to the adviser and committee, covering a field or laboratory research problem. A final oral examination on his research is also required.

For more detailed information or advisement, students should consult the chairman of the Biological Science Department, or the graduate coordinator of the Biological Science Department.

Also see "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

## DEPARTMENT OF CHEMISTRY

Professors: Bryden, Shields \*

Associate Professors: Dorer, Hiegel, Janota, Langworthy, Montana (chairman), Prenzlow, Spenger, Wong

Assistant Professors: Bailey, Baur, Belloli, Huotari, Wegner, Willis

Assistant: Ezell

The Department of Chemistry is on the approved list of the American Chemical Society.

The curriculum is planned to provide thorough instruction in the basic principles and concepts of chemistry for students who will (1) advance to graduate work in chemistry; (2) teach in the science programs of secondary schools; (3) seek employment in industry or government; or (4) pursue a chemistry minor of fundamental courses in chemistry in support of other areas such as physics and biology.

To qualify for a baccalaureate degree in chemistry, students must have a C average in all courses required for the majors including those in the related sciences. A reading proficiency in one modern foreign language (Russian, German, French) is required. This requirement may be met by taking either four semesters of college foreign language or three semesters of college foreign language provided the third semester is a course in Scientific French, German, or Russian. Under unusual circumstances the requirement may be met by examination upon approval by the Department Chairman. Examinations will be given in October and March of each academic year. For details of examination procedure, apply at the department office. A reading comprehension of a second modern foreign language is

\* College administrative officer.

## Chemistry

strongly recommended for students planning graduate study leading to the Ph.D. degree.

No credit toward the major will be allowed for specific major courses in which a grade D is obtained.

### BACHELOR OF ARTS IN CHEMISTRY

Students may elect a curriculum (Plan A) based upon the recommendations of the Committee for Professional Training of Chemists of the American Chemical Society and upon completion of this program receive a Certificate of the American Chemical Society. This curriculum qualifies graduates for chemical industry and graduate work in chemistry. The department offers Plan B and Plan C for those students who are candidates for professional schools as medicine, dentistry, etc.; secondary education; or graduate school in biochemistry or molecular biology.

#### Plan A (A.C.S. Approved Program)

##### Required courses in Chemistry: Units

Gen Chem (101A,B) .....	10
Quant Chem (312) .....	4
Org Chem (305A,B) .....	10
Physical Chem (371A,B) .....	6
Physical Chem Lab (441) .....	4
Adv Inorg (425) .....	3
Instru Anal (411) .....	4
Indep Study (499) or Senior Research (495) .....	2
Electives (at least one lecture or lecture lab course) .....	3

Total units ..... 46

Related areas (*satisfies the general education requirement in physical science, mathematics and biology*):

Physics (225A, B, C); 226A, B, C .....	12
Mathematics (150A,B, 250 and 291) .....	15
Biology .....	5

Total Units ..... 32

Total units in science and mathematics ..... 78

General Education units, not including 13 units of physical science, mathematics, and biology (see the general education requirements page 68) .....

32

Undesignated units ..... 14

Total units for the B.A. degree in Chemistry (Plan A) ..... 124

#### Plan B

##### Required courses in Chemistry: Units

Gen Chem (101A,B) .....	10
Quant Chem (312) .....	4
Org Chem (305A,B) .....	10
Physical Chem (371A,B) .....	6
Physical Chem Lab (441) .....	4
Adv Inorg (425) .....	3
Indep Study (499) or Senior Research (495) .....	2

Total units ..... 39



Related areas (*satisfies the general education requirements in physical science, mathematics, and biology*):

	Units
Physics (211A,B) or (225A,B,C) (226B,C) .....	8-11
Mathematics (150A,B, 250) .....	12
Biology .....	5
Total units .....	25-28
Total units in Science and Mathematics .....	62-64
General education units, not including 13 units of physical science, mathematics, and biology (see the general education requirements page 68) .....	32
Undesignated units .....	30-28
Total units for the B.A. in Chemistry (Plan B) .....	124

### Plan C Biochemistry

*Required courses in Chemistry:*

	Units
Gen Chem (101A,B) .....	10
Quant Chem (312) .....	4
Org Chem (one year) .....	8-10
Phys Chem (371A,B) .....	6
Gen Biochem (421A,B) .....	6
Gen Biochem Lab (422A,B) .....	4
Ind Study (499) .....	2
Senior Rsch (495) .....	2
Total units .....	40-42
Related areas ( <i>satisfies the general education requirements in physical science, mathematics, and biology</i> ):	Units
Physics (211A,B) or (225A,B,C), (226B,C) .....	8-11
Mathematics (150A,B, 250) .....	12
Biology .....	12
Total units .....	32-35
Total units in Science and Mathematics .....	72-77
General education units, not including 13 units of physical science, mathematics, and biology (see the general education requirements page 68) .....	32
Undesignated units .....	20-15
Total units for the B.A. degree in Chemistry (Plan C) .....	124

### MINOR IN CHEMISTRY

A minimum of 24 acceptable units of chemistry, including organic chemistry (8) and physical chemistry (6), are required for a chemistry minor.

# Chemistry

## Suggested Eight Semester Program for a Major in Chemistry (Plan A)

### First Semester (Freshman)

	Units
Chem 101A Gen Chem .....	5
Math 150A Anal Geo and Calc....	4
Eng 101 Composition and Lit .....	3
Hist 170A or 170B U.S. history	3
PE Phys ed activity .....	1

16

### Third Semester (Sophomore)

Chem 305A Org Chem .....	5
Math 250 Inter Calc .....	4
Physics 225B, 226B Fund Physics	4
Pol Sci 100 Amer Government....	3

16

### Fifth Semester (Junior)

Chem 371A Physical Chem .....	3
For Lang Mod For Lang .....	5
General education courses .....	3
Chem 312 Quant Chem .....	4

15

### Seventh Semester (Senior)

Chem 441 Phys Chem Lab .....	3
Chem (495 or 499) .....	2-3
Chem 425 Adv Inorg .....	3
For Lang 203 or 303 .....	3
General education courses .....	4

15-16

### Second Semester (Freshman)

	Units
Chem 101B Gen Chem .....	5
Math 150B Anal Geo and Calc....	4
Physics 225A, 226A Fund Physics	4
Eng 102 Lit and Composition ....	3
PE Phys ed activity .....	1

17

### Fourth Semester (Sophomore)

Chem 305B Org Chem .....	5
Math 291 .....	3
Physics 225C, 226C Fund Physics	4
Bio Sci .....	5

17

### Sixth Semester (Junior)

Chem 371B Physical Chem .....	3
Elective in chemistry .....	2-4
For Lang 102 Mod For Lang .....	5
General education courses .....	5

15-17

### Eighth Semester (Senior)

Chem 411 Instr Anal .....	4
Elective in chemistry .....	2-3
General education courses .....	9

15-16

This type of schedule allows the student to elect his last semesters according to the branch of chemistry which attracts him the most.

Below are listed the possible electives which would be available during the student's last three semesters in residence.

Possible elective in the sixth semester:

Chem 403 Anal of Org Cmpds

Possible electives during the seventh and/or eighth semester:

Chem 403 Anal of Org Cmpds

Chem 421A, B Gen Biochem

Chem 422A, B Gen Biochem Lab

Chem 427 Prep Techniques

Chem 431 Adv Org

Chem 451 Quantum Chem

## Suggested Program for a Major in Chemistry (Plan B)

This program is essentially the same as under Plan A except the number of required chemistry, mathematics and physics courses is reduced. A student planning on a career in teaching will, in addition, fulfill requirements of the School of Education.

## MASTER OF ARTS IN CHEMISTRY

The Master of Arts in Chemistry is designed to qualify students for more advanced work in chemistry, to provide preparation which will lead to responsible



positions in industrial or government research and development laboratories, and to provide preparation for the effective teaching of chemistry in the high schools and junior colleges.

The program provides fundamental courses at a level and depth commensurate with those taken during the first year of a doctoral program and provides an introduction to research and research methods.

### Prerequisites

Students to be admitted to the program must:

1. Meet the general prerequisites for graduate work formulated and recommended by the college.
2. Have a baccalaureate degree from an accredited institution.
3. Have an undergraduate major in chemistry with a grade-point average of 3.0 or better in chemistry courses taken, and a 2.5 GPA in all other previous college work.
4. Have had enough specialized elective courses in chemistry to give a minimum of 24 units of upper division chemistry, including at least one course which has three years of chemistry as a prerequisite.

The major in chemistry should have included in the undergraduate program a year-course in each of the following fields: general chemistry, analytical chemistry, organic chemistry, and physical chemistry. The course in physical chemistry should have included laboratory work.

Orientation examinations, administered by the department, are required of all students entering the program. The results of these examinations will be used to advise the student in developing his study plan. A student may be classified with certain subject deficiencies, but such deficiencies must be removed by completion of committee-approved courses with at least a B average before the student may be advanced to candidacy. Proficiency in reading chemical literature in one approved foreign language (e.g., German, French or Russian) must be demonstrated before advancement to candidacy.

### Program of Study

The degree program consists of 30 units of committee-approved course work completed with a minimum grade-point average of 3.0, including at least 15 units of 500-level chemistry courses.

The following courses are required of all students in the program:

	Units
Chem 550 Advanced Physical Chemistry.....	4
Chem 505 Seminar in Chemistry.....	2
Chem 599 Independent Graduate Research.....	3 (minimum)
Chem 598 Thesis .....	1-2

Elective courses, to be taken with the approval of the adviser, must include a minimum of six units outside the student's area of specialization and a minimum of nine units (in addition to the minimum of three units of Chem 599, as above) in one of the following areas of specialization, including related areas as approved by the committee.

1. Analytical chemistry
2. Biochemistry
3. Inorganic chemistry
4. Organic chemistry
5. Physical chemistry

For further details or advisement, please refer to the Graduate Coordinator of the Chemistry Department.

See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

## DEPARTMENT OF COMMUNICATIONS

Professors: Alexander, Klein, Maxwell (chairman)

Associate Professor: Smythe

Assistant Professors: Johnson, Lawrence, Mastroianni

Lecturers: Calhoun, Koehler, Overbeck

The department offers a major in communications with emphases in advertising, news communication (journalism), photocommunication, public relations, technical communication, and telecommunication.

Secondary teaching candidates must take the journalism emphasis.

The M.A. program in Communications is designed to provide advanced study in communications and related disciplines for those who wish to teach, engage in research, or follow professional careers in the mass media of communication.

The communications major helps to prepare those desiring various careers related to mass communication—careers that may involve newspapers and magazines, television and radio, advertising, public relations, photography, industrial or governmental communications, and teaching. Also, because of the program's emphasis on general principles of communication, it can serve well those with aspirations for administrative work in many areas of business, industry, government and education. Additionally, communication courses will benefit those who wish a better understanding of the functions of the mass media in a democratic society.

### BACHELOR OF ARTS IN COMMUNICATIONS

Requirements: A combined total of 48 units—36 within the Communications Department and 12 collateral units\* in other departments, as follows:

#### Communications Core (21 units)

The courses in the core are required of all students majoring in communications.<sup>†</sup>

Comm 101	Reporting and Writing (3)
Comm 102	Reporting and Writing (3)
Comm 333	Mass Communication in Modern Society (3)
Comm 407	Communication and the Law (3)
Comm 425	History and Philosophy of American Mass Communication (3)
Comm 426	World Communication Systems (3)
Comm 427	Seminar on Current Issues in Mass Communication (3)

### EMPHASIS FOR COMMUNICATIONS MAJORS

Every communications major must select an area of emphasis and complete the courses in it.

‡ Advertising	Units
Comm 353 Advertising Copy and Layout	3
Comm 356 Advertising Production (1,1)	2
Comm 218A Introduction to Photography	2
Comm 354 Retail Advertising	3
Comm 439 Mass Media Internship	2
Comm 451 National Advertising Campaigns	3

\* Some flexibility may be permitted in collateral units, depending on the student's preparation in these areas.

† Because of extensive need for mathematics and science in the technical communication emphasis, some variation will be permitted, through advisement only, to include additional mathematics and science in the program. Collateral units in other departments will exceed 12 for this emphasis, but total units required for the major will not exceed 48.

‡ This emphasis is still in its developmental stage. Other courses are being prepared for inclusion in it.



† Collateral Requirements in Other Departments

Units

Art 103	Two-dimensional design	3
English 303	The Structure of Modern English	3
Mktg 351	Principles of Marketing	3
Phil 310	Ethics	3

**News Communication (Journalism)**

(Required for secondary teacher candidates)

Comm 338	Newspaper Production	3
Comm 332	Copy Editing and Makeup	3
Comm 335	Reporting of Public Affairs	3
Comm 218A	Introduction to Photography	2
Comm 218B	Communications Photography	2
Comm 439	Mass Media Internship	2

† Collateral Requirements in Other Departments

Econ 330	Comparative Economic Systems	3
English 462	Modern British and American Novels	3
Hist 476	United States Since 1933	3
Psych 351	Social Psychology	3

\* Photocommunication

Comm 218A	Introduction to Photography	2
Comm 218B	Communications Photography	2
Comm 306	Photographic Production	2
Comm 319	Documentary Film Production	3
Comm 375	The Documentary Film	3
Comm 358A	Publications Production	2
Comm 439	Mass Media Internship	2

† Collateral Requirements in Other Departments

Art 103	Two-dimensional Design	3
Art 338A	Creative Photography	3
Econ 201	The American Economy	3
Psych 351	Social Psychology	3

**Public Relations**

Comm 361	Theory and Principles of Public Relations	3
Comm 463	Public Relations Methods	3
Comm 465	International Public Relations	3
Comm 358	Publications Production	2
Comm 218A	Introduction to Photography	2
Comm 439	Mass Media Internship	2

† Collateral Requirements in Other Departments

Econ 330	Comparative Economic Systems	3
English 303	The Structure of Modern English	3
Mgmt 341	Principles of Management	3
Psych 351	Social Psychology	3

\* Technical Communication

Comm 332	Copy Editing	3
Comm 334	Feature Article Writing	3
Comm 401	Report Writing	3
Comm 403	Technical Writing	3
Comm 404	Advanced Technical Writing and Editing	3

\* This emphasis is still in its developmental stage. Other courses are being prepared for inclusion in it.

† Or other courses as approved by adviser.

## Communications

### ‡ Collateral Requirements in Other Departments

	Units
Physics 211A Elementary Physics	4
Physics 211B Elementary Physics	4
QM 361 Business and Economic Statistics	3
QM 364 Computer Logic and Programming	3

### \* Telecommunication

Comm 380 Introduction to Radio and Television	3
Comm 371 Radio-television News and Public Affairs	3
Comm 375 The Documentary Film	3
Comm 218A Introduction to Photography	2
Comm 319 Documentary Film Production	3
Comm 439 Mass Media Internship	2

### ‡ Collateral Requirements in Other Departments

Drama 382 Television Techniques	3
English 303 The Structure of Modern English	3
Psych 351 Social Psychology	3
Spch 333 Business and Professional Speaking	3

### MINOR IN COMMUNICATIONS

This minor offers a basic core of writing and publication courses for teacher candidates and others who wish some training in communications.

Requirements: A combined total of 21 units, as follows:

Lower division (maximum of 7)

- Comm 101 or 102 (3)
- Comm 218A and 218B (2, 2)

Upper division (minimum of 14 units)

- † Comm 331 or equivalent (3)
- Comm 333 (3)
- Comm 338 (3)
- Comm 358A or 358B (2)
- Comm 425 (3)

### TEACHER CREDENTIAL REQUIREMENTS

Communications majors who are teacher candidates should complete the communication core and the news communication (journalism) emphasis. This program has been declared to be academic by the State Board of Education. Prospective teachers must complete Communications 358A, B as part of their major requirements. These candidates must have their minor approved by the chairman of the Communications Department and must complete the required professional education courses in addition to their major and minor requirements. (See "Journalism Education," page 350.)

### MASTER OF ARTS IN COMMUNICATIONS

The Master of Arts in Communications is designed to provide advanced study in communications and related disciplines, and to develop a research emphasis in one of the following: advertising, journalism education, news, photo-communication, public relations, technical communication, or telecommunication.

Such study will enable the graduate of the program to apply advanced communications concepts and skills in careers that may involve newspapers and magazines, television and radio, advertising, public relations, photography, and technical

\* This emphasis is still in its developmental stage. Other courses are being prepared for inclusion in it.  
† Some variation in these requirements may be permitted on the basis of professional experience or interest.

‡ Or other courses as approved by adviser.



and scientific communications. Communications abilities are also highly applicable to administrative careers in industry, government and education. Students completing the Communications M.A. with a journalism education research emphasis are eligible for journalism teaching positions in high school or junior college.

### **Prerequisites**

Students must possess a baccalaureate degree and have completed a basic core of courses in communications as prerequisites to the M.A. program. Before admission to classified graduate status, students must take the Graduate Record Examination Aptitude Test.

### **Program of Study**

Students are required to complete 30 units of approved studies, including 18 units in graduate level communications courses, and six units in related studies. Six of the 18 units of graduate level courses are applicable to research for a thesis or project. In addition, students must satisfy a "collateral field requirement" in a related discipline.

For further information, consult the Department of Communications. Also see "The Program of Master's Degrees," page 71 and the *Graduate Bulletin*.

## **BACHELOR OF ARTS IN COMPARATIVE LITERATURE** **(An Interdisciplinary Program)**

The program in comparative literature is an interdisciplinary program directed by the Committee on the Program in Comparative Literature. The committee is responsible for formulating curriculum policies, approving courses, and advising students. Courses in comparative literature are taught by faculty from the English Department and other departments whose courses are approved by the committee. The Chairman of the English Department administers the program. The major in comparative literature provides professional competence and personal enrichment for students with an exceptional concern and appreciation for the study of the interrelationships between the languages and literatures of various civilizations from the dawn of mankind to the present. The program offers courses in the study of literature with special emphasis on the global interrelatedness of literary form and content, theory and philosophy, genres and movements, providing an insight into the developments and backgrounds of mankind's worldwide cultures and literatures. The literary works are read in English or English translations and the courses conducted in English.

### **Upper Division Requirements**

- (A) 15 units selected from courses listed under comparative literature.
- (B) 3 units of French, German, Italian, Russian, or Spanish selected from course numbers 431, 441, 451, 461, or any other 400 course approved by the adviser.
- (C) 6 units selected from courses listed under English and numbered 300 or above
- (D) 3 units of either History 415A or History 110A.
- (E) 9 units selected from any 300 or 400 literature course in comparative literature, English, French, German, Italian, Russian, or Spanish.

**Total:** 36 units.

Majors in comparative literature are strongly advised to include in their program courses in related areas, such as art, anthropology, drama, history, linguistics, philosophy.

Students must consult with an adviser in comparative literature through the Department of English before submitting their individual courses of study for approval by the Committee on the Program in Comparative Literature.

## DEPARTMENT OF ENGLISH

Professors: Cummings, Jones,\* McNelly, Obler, Pollak (Salz), Ramsay, Schneider, Sears, Wagner (chairman), Watkin

Associate Professors: Austin, Cox, Farzan, Friend, Gilde, Greenwood, Haaker, Hodges, Huebner, Hughes, Rubinstein, Scott, Scoufos, Sharma, Tumas, Vogeler

Assistant Professors: Boston, Epstein, Hayden, Hengeveld, Hipolito, Holland, Law, Miller, Neilson, Nims, Oleyar, Petalas, Schwarz, Seller, Shames, Shapiro, Spangler

Instructors: Antonelli, Cabanel-Evans, Fuller, Kilker, Mauch

Lecturers: deFrance, Garber, Romotsky, Sawicki, Yanko

The English Department offers courses designed to acquaint the student with the nature and development of our language, with the literatures of England and America, and with the disciplines involved in the various kinds of writing. Except for freshman English offerings, courses in world literature in English translation are listed separately, under Comparative Literature. In addition the Department of English offers some specialized professional courses for the preparation of teachers. On the senior and graduate levels, various opportunities are provided for seminar work and independent study.

English 101<sup>†</sup> and 102<sup>†</sup> or their equivalents or the consent of the instructor is a prerequisite to all English and comparative literature courses numbered 200 and above.

### BACHELOR OF ARTS IN ENGLISH

Requirements: A total of 36 units beyond English 101 and 102 or their equivalents, with the following distribution:

*Lower Division* (maximum of 9 units)

May include survey courses in British, American, or World Literature.

*Basic Course* (3 units)

201 Analysis of Literary Forms

*Upper Division* (minimum of 27 units)

Language and composition (minimum of 3 units), selected from the following:

301 Advanced Composition

303 The Structure of Modern English

490 History of the English Language

American Literature (6 units):

321 American Literature to Whitman

322 American Literature from Twain to the Moderns

Major Author Courses (9 units)

333 Chaucer

334 Shakespeare

341 Milton

Period courses (minimum of 6 units, at least 3 in a period preceding the Romantic Movement) selected from the following:

332 Medieval Literature

335 Elizabethan and Jacobean Drama

336 Elizabethan Poetry and Prose

337 Seventeenth Century Poetry and Prose

338 Drama of the Restoration and the 18th Century

342 The Age of Reason in English Literature

343 The Romantic Movement in English Literature

\* College Administrative Officer.

<sup>†</sup> Final decisions on any changes in the freshman English program for 1970-71 were not made in time for inclusion in this catalog. Please see "Special English Department Bulletin '70-'71," available in the English Department, for English Department course descriptions and requirements at the 100 level. Courses in the 100 series listed in the *Class Schedule* are designed for freshman students.



- 344 The Literature of the 19th Century after 1830
- 345 The Development of the English Novel through Jane Austen
- 346 The Development of the Nineteenth-Century English Novel
- 462 Modern British and American Novels
- 463 Contemporary British and American Novels
- 464 Modern British and American Drama
- 466 Modern British and American Poetry

Transfer students should consult with their advisers who may recommend the granting of further credit for lower division work completed at other institutions.

Electives to complete a minimum of 36 units selected from additional courses in language and composition, period courses, literary criticism, senior seminars, and comparative literature. Comparative literature offerings are listed separately, but count toward an English major.

A program of literary studies gains in perspective through the study of history, sociology, philosophy, and psychology. These fields offer vital lifelines which nourish and deepen understanding of literature. Students of literature are strongly advised to include such courses in their program, particularly in the areas of philosophy and psychology.

English majors who intend to pursue graduate study are urged to acquire proficiency in at least one foreign language. Note: Freshmen intending to major in English should complete two years of course work in a foreign language, or demonstrate equivalent accomplishment by transfer or by examination.

#### MINOR IN ENGLISH

Requirements: a total of 21 units.

*Lower Division* (maximum of 9 units)

201, 211, 212, or any lower division course beyond English 101 and 102 or the equivalent.

*Lower Division* electives (3 units)

*Upper Division* (minimum of 12 units), including:

American Literature (minimum of 3 units), selected from the following:

321 American Literature to Whitman

322 American Literature from Twain to the Moderns

Language and composition (minimum of 3 units), selected from the following:

301 Advanced Composition

303 The Structure of Modern English

490 History of the English Language

Major Author Courses (minimum of 6 units)

334 Shakespeare

333 Chaucer or

341 Milton

#### MASTER OF ARTS IN ENGLISH

To qualify for admission to the program for the M.A. in English (classified graduate status) a student must hold a bachelor's degree in English from an accredited institution at which he has maintained at least a 3.0 grade-point average in the major courses *provided that he has a minimum of 24 units of upper-division coursework*; or if he holds a bachelor's degree in another major, he must have completed 24 units of upper-division course work in English with at least a 3.0 grade point average. If the student lacks the prerequisite number of English courses, he must make them up before he may begin work in the master's degree program, earning at least a 3.0 in such make-up coursework. In the event that the student's G.P.A. in prerequisite English courses is less than 3.0, he may be allowed to take from 6 to 9 units of probationary, adviser-approved coursework. If his

## Foreign Languages and Literatures

GPA in these probationary courses is 3.0 or better, he may be admitted (classified).

A student is required to have two years of one foreign language at the college level or 6 units of study in comparative literature. If taken as graduate work, these 6 units may be applied to the master's degree under "units in subjects related to English."

### Program:

	Units
Minimum units in courses restricted to graduate students (500 series).....	18
Maximum units in specified upper-division courses in English .....	6
Units in subjects related to English .....	6
Total .....	30

During his last semester or session, the student must enroll in Independent Graduate Research (English 599) as one of his "500" courses. At the conclusion of this course he will take the written comprehensive examination for the master's degree.

**Note:** The student is strongly advised to take the steps necessary for admission to the program before registering for his first graduate courses. Part of the admission process is to confer with the graduate adviser, who will analyze prerequisites and designate those courses which will apply to the degree program. Courses taken by an unclassified student do not necessarily apply toward a degree. At the time the student achieves classified status, no more than 9 units of postgraduate coursework may be applied to the master's degree program.

For further information, consult the Department of English.

Also see "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

## DEPARTMENT OF FOREIGN LANGUAGES AND LITERATURES

Professors: Feldman,\* Kline (chairman), Mathieu

Associate Professors: Arana, Boarino, Merrifield, Shapley, Van Ginneken, Zimmermann

Assistant Professors: Bertalot, Cartledge, Mayer, Vasari

Instructors: Peña, Tussing

Lecturers: Baden, Bali, Bloom

The program of the Department of Foreign Languages and Literatures is designed to meet the needs of several types of students, including those who seek a liberal arts education with an emphasis on a foreign language and its literature; those who intend to teach at the elementary, secondary, or college level; those who plan to use foreign languages in professional careers; or those who desire to pursue graduate studies. The program emphasizes high standards of achievement in the practical use of the language, in the study of its literature and its culture, in the mastery of applied linguistics, and in methodology of teaching, the latter acquired in part through apprenticeship.

A student may enroll at any point in the sequence of courses for which his previous study has prepared him.

### BACHELOR OF ARTS IN FRENCH, GERMAN OR SPANISH MAJOR IN A FOREIGN LANGUAGE

Three options are offered: French, German or Spanish. Requirements: Courses 101, 102, 203, 204, 213, 214, or their equivalents completed satisfactorily; plus a minimum of 24 units of upper division courses, including, 315, 317, 375, 431, 441, 451, 461.

\* College administrative officer.



Attention is directed to the courses in foreign literatures in translation listed elsewhere in this catalog under Comparative Literature. These courses may not be counted toward a major in a foreign language.

### MINOR IN A FOREIGN LANGUAGE

*Requirements:* Courses 101, 102, 203, 204, 213, 214, or their equivalents, completed satisfactorily; plus nine units in upper division courses selected in consultation with the adviser. Minor concentrations are offered in French, German, Portuguese, Russian and Spanish.

### MAJOR IN LINGUISTICS

Requirements for the Bachelor of Arts and Master of Arts degrees in Linguistics are listed on page 161.

### CREDENTIAL PROGRAMS

All prospective teachers, before being admitted to a credential program, must pass a proficiency examination in which their skills of listening, speaking, reading, writing and knowledge of linguistic principles will be tested. The examination is administered twice yearly, in September and February. Students should make arrangements with the Department to take the test during their senior year or during the first semester of their fifth year.

#### STANDARD TEACHING CREDENTIAL WITH A SPECIALIZATION IN ELEMENTARY TEACHING

Students who are candidates for the standard teaching credential with a specialization in elementary teaching must also complete the professional requirements, including Foreign Languages Education 432 and 433.

#### STANDARD TEACHING CREDENTIAL WITH A SPECIALIZATION IN SECONDARY EDUCATION

The credential program is the same as for the liberal arts major, with the following additional requirements:

Foreign Languages Education 442;

French or German or Spanish Applied Linguistics 466;

plus six units in the major language selected with the approval of the adviser and taken in the senior year or thereafter at the 400 and 500 level.

### INTERNATIONAL PROGRAMS

In accordance with recommendations made by the Modern Language Association of America, the Department of Foreign Languages and Literatures encourages all majors interested in a teaching career to participate in a study-abroad program. This will enable a student to perfect his mastery of the language and afford him additional insights into the foreign culture. To this end, the California State Colleges International Programs offer a wide variety of study opportunities on the junior, senior and graduate level. Language majors are, however, required to complete a minimum of three literature courses at the 400 level on the Fullerton campus. For further information, see page 43.

### THE LANGUAGE LABORATORY

Students enrolling in courses 101, 102, 203, 204 are required, in addition to the regular class periods, to practice for the minimum of prescribed time in the language laboratory. The 30-station laboratory operates like a library; students may use it at a time most convenient to them, preferably every day in sessions of 15 to 30 minutes. Further details will be announced by each instructor and by the supervisor of the language laboratory.

Students are invited to make use of the collection of literary and cultural recordings in French, German, Portuguese, Russian and Spanish available in the language laboratory.

## MASTER IN ARTS IN FRENCH, GERMAN OR SPANISH

The degrees of Master of Arts in French, German and Spanish require a minimum of 30 semester units beyond the bachelor's degree. A candidate presenting a B.A. which has fewer than 24 upper division units in the major language, or is otherwise inadequate, normally will be required to take additional courses to build a full undergraduate major before beginning the graduate program. The student must also demonstrate proficiency in English, either by examination or a three-unit upper division course in English grammar. The 30 units in the graduate program are distributed as follows:

	Units
Language and linguistics courses (minimum of 9 on 500 level).....	12
Literature courses (minimum of 6 on 500 level).....	12
Subjects in an approved related field.....	6
Minimum total .....	30

A part of the 30 units may be assigned to a thesis.

The candidate for the M.A. degree must consult a graduate adviser before beginning his program. Before being advanced to candidacy for the degree, he must demonstrate proficiency in the language to a faculty committee appointed for that purpose. The terminal evaluation is by comprehensive written and oral examination, including fluency in the specified language.

For further information, consult the Department of Foreign Languages and Literatures.

See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

## DEPARTMENT OF GEOGRAPHY

Professor: Earick

Associate Professors: Helin, Reith (chairman), Sutton

Assistant Professors: Ketteringham, Pettyjohn, Sager

### BACHELOR OF ARTS IN GEOGRAPHY

The major in geography provides knowledge concerning variety and change in the earth's physical foundation and in man's economic, cultural and political relationship to that foundation. In doing so it contributes to a broad, liberal education and furnishes sound preparation for employment in business, planning, and government service. The field also provides a foundation for teaching on the elementary and secondary levels and for advanced geographic study on the graduate level leading to university and college teaching and research.

#### Unit Requirements

The major consists of at least 36 units of geography, including no more than 13 units of lower division work and excluding all work applied toward the general education requirement. To fulfill the major a student must complete the geography core (Geography 100, 206, 210 and 233) and a 24 unit concentration in upper division geography, including at least one course from each of the following groups:

Physical: 312, 323

Human: 350, 370, 453, 463, 464, 472, 481, 483

Technique: 475, 478, 479, 480, 490

Regional: 365, 366, 431 through 439, 445

No unit credit toward the major will be allowed for geography courses in which a grade of D is received. Content credit for such courses may be allowed by the student's adviser.



### TEACHING MINOR IN GEOGRAPHY

The minor in geography is intended as a second field for persons completing a major in another discipline in preparation for a teaching credential. It is designed to give a basic understanding of earth science and geographic relationships helpful to the classroom teacher. The program provides a balance between the physical and social sciences.

#### Required Courses

Geography Core. (Geography 100, 206, 210 and 233)

One course from each of the following groups: physical, human and regional.

### MASTER OF ARTS IN GEOGRAPHY

This program provides advanced study in geographic concepts, techniques and methods. Through seminars and research it develops the analytical and interpretive abilities of the student, and provides requisite background for employment in teaching, government and business.

#### Prerequisites

Admission to the program requires the equivalent of 27 semester units of geography distributed as follows: (1) nine units in introductory geography; (2) three units in upper division physical geography; (3) six units in upper division human geography; (4) six units in upper division techniques; and (5) three units in upper division regional geography. A 3.0 (B) average in all geography courses is required prior to classification in the program. Course or grade deficiencies may be made up with consent of the *departmental* graduate committee. Students are to complete the Graduate Record Examination (advanced geography test) prior to classification.

#### Program of Study

After completion of all prerequisites and removal of deficiencies, if any, the student is reviewed for classification into the program by the *departmental* graduate committee. On acceptance, an official study plan is developed in consultation with the *student's* graduate committee. Requirements for the degree include:

	Units
Geography 500 Seminar in the Evolution of Geographic Thought .....	3
Other seminars in geography .....	6-9
Geography 597 Project or Geography 598 Thesis .....	6
Elective upper division or graduate geography, including three units of technique .....	9-6
Upper division or graduate work in related fields .....	6
<b>Total</b> .....	<b>30</b>

Candidacy is attained on the satisfactory completion, i.e., B or better in all, of 12 approved units of work, including at least three units in a 500-level geography seminar. A written or oral examination may be required for advancement to candidacy. Each candidate normally prepares two three-unit research projects, but, if recommended by the *student's* graduate committee, he may substitute a six-unit thesis. Students interested in foreign area studies are expected to demonstrate a proficiency in a suitable foreign language.

For further information, consult the Department of Geography.

See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

## DEPARTMENT OF HISTORY

Professors: Beck, Brown,\* de Graaf, Langsdorf,\* Povlovich \*

Associate Professors: Bellot, Etue, Feldman, Giacumakis, Hardy (chairman), Jordan, Onorato, Pivar, Putnam, Sailor, Toy \*

Assistant Professors: Baker, Bakkan, Breese, Elenbaas, Flickema, Hansen, Jeffrey, Miller, Rietveld, Scheinberg, Shumway, Stewart, Van Deventer, Weleba, Woodard, Yada, Zinberg

Lecturer: King

### BACHELOR OF ARTS IN HISTORY

The undergraduate major in history is designed to provide cultural enrichment, a sense of alternative, and perspective on both the present and the future. This major may be pursued to fulfill various professional and cultural objectives common to a liberal arts program. It serves, especially, as a preparation for teaching, law, government, and other public services, and as the foundation for advanced study at the graduate level.

The major is composed of a minimum of 24 units in the upper division, plus the basic courses in world civilizations (History 110A-110B) and United States History (History 170A-170B). The basic courses may also be used to meet general education requirements. Students majoring in history are encouraged to include in their lower division programs some work in such fields as anthropology, economics, geography, literature, philosophy, political science and sociology.

Students intending to do graduate work in history should acquire a reading knowledge of at least one foreign language appropriate to the pursuit of advanced research in a field of history.

The 24 units of upper division courses required for the major must include:

History 399 Historiography (3 units)

Six units in United States history

Six units in European history (from ancient Greece to modern times)

Six units in the history of Asia, Africa, or Latin America

### TEACHING MINOR IN HISTORY

The teaching minor in history is composed of at least 20 units in history exclusive of the general education requirements:

Recommended teaching minor:

Units

World civilization (or equivalent)..... 6

Upper division work in history..... 15

Total ..... 21

### MASTER OF ARTS IN HISTORY

The Master of Arts in History is designed to improve the student's academic and professional competence for educational services at the elementary, secondary and junior college levels as preparation for advanced graduate work toward the doctoral degree in history. It is relevant to various other specialties in public or private enterprise and general cultural or community service. The program aims to deepen the students understanding of the human condition through a careful study of human experience.

### Prerequisites

Prerequisite to this master's degree is an undergraduate major in history with at least a GPA of 3.0 in the upper division history courses. Each student's background and record are evaluated by the coordinator. Satisfactory scores on the aptitude

\* College administrative officer.



test and the advanced test in history of the Graduate Record Examination are required.

Students with limited subject, grade, or breadth deficiencies may be considered for admission to the program upon completing courses approved by the Graduate Coordinator in History in addition to those required for the degree, with at least a B average.

### **Program of Study**

Of the 30 units of adviser-approved graduate courses on the study plan for the degree, 18 must be in appropriate work at the 500-level, and six must be in other supportive social sciences or related fields. The required courses are:

Hist 501 Seminar in the Content and Method of History (3 units)

Hist 590 History and Historians (3 units)

#### **A. Option I:**

A primary focus in one area in which a field is intensively developed. This results in a specific topic of research with a written thesis as the final product (History 598, Thesis, 3 to 6 units).

An oral examination on the thesis and the coursework will be required upon completion of the coursework but prior to the final draft of the thesis.

#### **B. Option II:**

The focus in this option is in two fields not found in the same general area. There is a minimum requirement of one graduate research seminar besides History 501 and 590. There is also a minimum requirement of one graduate reading seminar in the recent interpretations of history in the particular fields of interest.

A written comprehensive in each of the two fields will be required upon completion of the program.

Students in this program must demonstrate a broad cultural understanding of one or more foreign countries of import to the master's degree study program. This requirement may be met by a reading knowledge of an appropriate foreign language or an approved selection of comparative studies (12 units post B.A.), but the method must be approved by the student's adviser. In certain programs an examination in statistics may be substituted for the language requirement.

For further information, consult the Department of History.

See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

## **DEPARTMENT OF MATHEMATICS**

Professors: Ames (chairman), Gilbert, Stiel

Associate Professors: Benson, Egbert, V. J. Klassen, V. M. Klassen, Marley, Miller, Sandberg

Assistant Professors: Beck, Buchman, Clapp, Dinerstein, Gauntt, Mathews, Zee

### **BACHELOR OF ARTS IN MATHEMATICS**

The program of studies in mathematics offers courses stressing the understanding of mathematical concepts and the axiomatic approach. A sufficient variety of courses is given to satisfy the needs of:

- (1) The proficient aiming toward graduate study,
- (2) The student planning to use mathematics in a career in industry and government service,
- (3) Preprofessional students in other science areas,
- (4) The prospective elementary and secondary teacher.

## Mathematics

The Major Program is designed to provide a student with both depth and breadth in mathematics. It also prepares a student for subsequent graduate work in mathematics.

The Applied Option is designed to prepare a student for industrial employment in applied mathematics.

The Teaching Option is designed to prepare a student for the teaching of mathematics (credentialed) in high school or lower.

The science-language requirements for all mathematics majors are (1) Physics 225 (A, B, C, or D) 3 units; and either (2a) 13 units (or its equivalent) of a modern foreign language (i.e., German, French, Russian, or on the teaching option Spanish as well) or (2b) 12 units from the following categories: i) Additional courses from Physics 225 (A, B, C, D), Physics 226 (A, B, C) or upper division physics. ii) Chemistry 101 A,B or upper division chemistry. iii) Philosophy 368 (Symbolic Logic) or Math 304, but not both. iv) Quantitative Methods 264 (Programming).

Any mathematics major may, if he desires, satisfy his science-language requirements with the above courses rather than the courses prescribed in a previous catalog. Furthermore, these courses may be taken on a pass/no pass basis.

No credit toward the major will be allowed for specific major courses in mathematics in which a grade of D is obtained. To qualify for the Bachelor of Arts in Mathematics, students must have a C average in all mathematics courses required for the major.

A placement test is given to students in the Department of Mathematics to determine their readiness to start the calculus.

The basic courses in mathematics may also be used to meet the general education requirements.

Mathematics majors should take the lower division mathematics courses (150A, B, 250, 291) during the first two years. Furthermore, majors requiring Advanced Calculus (350A, B) should complete these courses before the senior year.

### Major Program in Mathematics

#### Required courses:

	Units
Math 150A,B Analytic Geometry and Calculus	8
Math 250 Intermediate Calculus	4
Math 291 Linear Algebra	3
Math 306 Vector and Tensor Analysis	} (choice) 3
Math 307 Elementary Differential Geometry	
Math 302 Modern Algebra	3
Math 350A,B Advanced Calculus	6
Math 407 Abstract Algebra	} (choice of three) 9
Math 412 Complex Analysis	
Math 414 Topology	
Math 450 Real Analysis	
Any other 400-level course in mathematics	3
	<hr/> 39

### Option in Applied Mathematics

#### Required courses:

	Units
Math 150A,B Analytic Geometry and Calculus	8
Math 250 Intermediate Calculus	4
Math 291 Linear Algebra	3
Math 306 Vector and Tensor Analysis	} (choice) 3
Math 307 Elementary and Differential Geometry	
Math 310 Ordinary Differential Equations	3
Math 350A,B Advanced Calculus	6



Math 302	Modern Algebra	}	(choice of four, — 12 at least two of which must be 400- level)	Units
Math 335	Mathematical Probability			
Math 336	Mathematical Statistics			
Math 340	Numerical Analysis			
Math 430	Partial Differential Equations			
Math 431	Methods of Applied Mathematics			
Math 440	Advanced Numerical Analysis			
Math 450	Real Analysis	}		
Math 412	Complex Analysis			
				3
				—
				42

**Option in Mathematics for Teacher Education  
for Elementary or Secondary Education**

*Required courses:*

Math 150A,B	Analytic Geometry and Calculus	8
Math 250	Intermediate Calculus	4
Math 291	Linear Algebra	3
Math 302	Modern Algebra	} (choice) 3
Math 330	Number Theory	
Math Ed 311	Fundamental Concepts of Mathematics—Algebra	3
Math Ed 312	Fundamental Concepts of Mathematics—Geometry	3
Math 315	Euclidean Geometry	} (choice) 3
Math 320	Projective Geometry	
Math 335	Mathematical Probability	} choice 3
Math 336	Mathematical Statistics	
Elective courses from Mathematics Department only, 300-level or higher		9
		—
		39

**Minor Program in Mathematics**

A mathematics minor shall consist of 20 units of coursework selected from the courses offered by the Mathematics Department. They must include Mathematics 291 and at least six upper division units from the Mathematics Department. Each course must be completed with a grade C or better.

**Minor Program in Mathematics for Teacher Education**

A. For elementary education the minor shall consist of 20 units of course work selected from the course listings in mathematics and mathematics education. These courses must include Mathematics 150B and Mathematics Education 303A,B.

B. For secondary education the minor shall consist of 20 units of course work selected from the course listings in mathematics and mathematics education. These courses must include Mathematics 291 and six units of upper division courses in mathematics or mathematics education, exclusive of Mathematics Education 303A, B.

**MASTER OF ARTS IN MATHEMATICS**

The M.A. in Mathematics is designed to provide advanced study for students interested in continuing studies for a Ph.D. in mathematics, high school and junior college teaching, and mathematical analysis in industry.

**Prerequisites**

Prerequisites to the program include:

- (1) possession of a baccalaureate degree from an accredited institution;
- (2) an undergraduate major in mathematics or a combination of courses and work experience which the student's graduate committee evaluates as satisfactory preparation.

## Philosophy

Students with limited preparation or grade deficiencies may be considered for admission to the program, upon completion of committee-approved courses with at least a B average.

### *Program of Study (for all except high school mathematics teachers)*

The degree program requires 30 units of graduate study approved by the student's graduate committee. Sixteen of these units must be 500-level mathematics courses. Each student will be required to take electives to insure competence in algebra, analysis, topology and geometry. Nine units will be required outside the student's specialization, which may be taken in the Mathematics Department.

Proficiency in reading mathematics literature in an adviser-approved foreign language will be required before advancement to candidacy and before the department will recommend the awarding of the degree, the candidate must pass examinations (written and/or oral) designed to test his competence in the course work he has taken.

For more detailed information or advisement, students should communicate with the Chairman of the Department of Mathematics.

See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

### *Program of Study for Option in Mathematics for Secondary Schools*

This option, designed for high school mathematics teachers, requires 30 units of graduate study approved by the student's graduate committee. The following 15 units of coursework must be included: Math 581, 582, 583, 590 and one unit of 597. Each student will be required to take electives to insure competence in algebra, geometry and analysis.

There is no foreign language requirement for this option. Before the department will recommend the awarding of the degree, the candidate must pass examinations designed to test his competence in the coursework he has taken.

Most of the courses required for this option will be offered during the summer only. Courses will be scheduled so that a student may complete the degree requirements by attending classes during three successive summers. It should be noted that the student must be admitted to the college for a regular semester and must be enrolled at the time of receiving the degree.

For more detailed information or advisement, students should communicate with the Chairman of the Department of Mathematics.

Also see "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

## DEPARTMENT OF PHILOSOPHY

Professors: Alamshah, Becker,\* Hayner (chairman)

Associate Professor: Silvers

Assistant Professors: Cronquist, Hinman, Russell

Instructor: Hitchcock

Lecturer: Cox

### BACHELOR OF ARTS IN PHILOSOPHY

The major in philosophy is designed to provide the undergraduate student with (1) information about the achievements of the world's outstanding philosophers in the analysis and resolution of philosophic issues, and (2) some measure of skill in analyzing and resolving such issues as they arise in his own areas of interest. Courses in philosophy are selected to provide both breadth and depth in exploring and analyzing philosophic concerns.

\* College administrative officer.



**Requirements for the Major**

- A. A minimum of 30 units in Philosophy.
- B. *Lower Division* (Maximum of 6 units beyond general education requirements).
  - 1. Philosophy 290 (3)
  - 2. Philosophy 291 (3)

Note: Students who have taken their lower division work elsewhere will be given credit for equivalent coursework. Up to 6 units of such coursework may be allowed for credit at the discretion of the department.

- C. *Upper Division* (Minimum of 24 units)
  - 1. Philosophy 300 (3)
  - 2. Philosophy 301 (3)
  - 3. At least 9 units at the 400 level, to include:
    - a. At least one seminar, (3)
    - b. Philosophy 499, and (3)
    - c. A 400 level elective other than a seminar. (3)

A program in philosophy profits greatly through the study of literature, psychology, and the social sciences. Students of philosophy are advised to supplement their studies in philosophy with coursework offered in these fields. Philosophy majors are urged to acquire proficiency in a foreign language.

**MINOR IN PHILOSOPHY**

**Requirements for the Minor**

- A. A minimum of 21 units in Philosophy.
- B. *Lower Division* (Maximum of 9 units beyond general education requirements).
  - 1. Philosophy 290 (3)
  - 2. Philosophy 291 (3)
- C. *Upper Division* (Minimum of 12 units)
  - 1. Philosophy 300 (3)
  - 2. Philosophy 301 (3)

**DEPARTMENT OF PHYSICS**

Professors: Adams, R., Blend

Associate Professors: Cooperman (acting chairman), Crowley, Dittman

Assistant Professors: Bengtson, Johnston, Stark

**BACHELOR OF ARTS IN PHYSICS**

The program leading to the Bachelor of Arts degree in physics provides fundamental instruction for the student who is preparing (1) to teach in elementary or secondary schools, (2) to undertake graduate work in physics or related fields, (3) to pursue additional collegiate studies leading to professional degrees in dentistry, law, medicine, nursing, and related areas, and (4) to seek employment in technical and applied fields.

The faculty is concerned that the student of physics shall have adequate education in other liberal arts subjects, including foreign language. Through curriculum requirements and elective subjects, the physics student will be expected to acquire a broad education in traditional liberal arts subjects, the several sciences, and mathematics. In particular, the student is urged to make his selection of elective courses outside the field of physics.

To qualify for the Bachelor of Arts in Physics, students must have a C average in all courses required for the major, including those in mathematics and related

## Political Science

Students should consult with their academic advisers.

### GRADUATE WORK IN PHYSICS

The Physics Department offers a number and variety of graduate courses in physics.

## DEPARTMENT OF POLITICAL SCIENCE

Professors: Baldwin, Hyink,\* Mason, Richardson (Chairman)

Associate Professors: Bell, Carpenter, Feraru, Fisher, Foster, Kerschner, Yinger

Assistant Professors: Brown, Harlow, Kahrs, Keller, Kim, M. Lepper, Stone, Sutphen

Lecturers: Grody, Shippee

### BACHELOR OF ARTS IN POLITICAL SCIENCE

The undergraduate major in political science prepares students for teaching, government employment on the local, state and national level, foreign service, graduate work in political science, law school, or leadership in civic and political activities. Political science is also of value to prospective special librarians and journalists.

#### Unit and Course Requirements

The major consists of 30 units in political science of which at least 24 units must be in the upper division, plus 12 units in related departments taken with the approval of the adviser. These units are in addition to those meeting the general education requirements. Prospective majors are encouraged to take courses in anthropology, economics, geography, history, philosophy, psychology, sociology, and statistics.

All majors are required to take:

Political Science 100 (American Government)

The public administration courses are designed to prepare students for public service careers with local, state and federal government agencies, and for graduate work in public administration. Students will have opportunities to study, observe, and serve as interns in governmental agencies in the area.

The prelaw student may work out an individual program in consultation with his adviser to meet the specific requirements for admission to the law school of his choice. Courses in related fields may include work in anthropology, economics, history, psychology, and sociology; also in accounting and report writing.

### TEACHING MINOR IN POLITICAL SCIENCE

The teaching minor is composed of 21 units of political science, in addition to those meeting the general education requirements. Fifteen of these units must be taken from the courses required of all majors in political science.

### MASTER OF ARTS IN POLITICAL SCIENCE

This degree is planned for students interested in advanced graduate work toward the doctoral degree in political science, for the professional improvement of high

\* College administrative officer.



school and junior college teachers, government employees, personnel in the military services, and for individuals interested in civic and political leadership.

### **Prerequisites**

A student desiring to be classified as a candidate for the degree:

1. Must have taken the verbal and quantitative test of the Graduate Record Examination. The GRE Advanced Test in Political Science may also be re-required.
2. Must have completed an undergraduate degree with a grade-point average of 3.0 or more in courses in his major field. If his major field was not political science or another social science, he must have a GPA of 3.0 both in his major and in any upper division social science courses he has taken.

A student whose GPA is less than 3.0 may appeal to the departmental Graduate Committee for waiver of this requirement, if his combined score on the GRE aptitude test is 1,000 or more.

3. Must have demonstrated knowledge of appropriate research methods. A reading knowledge of a foreign language, of statistics, and of computer programming may be required as preparation if pertinent to the student's professional needs.

### **Program of Study**

A student must design a study plan of 30 units of course work, subject to the approval of his M.A. committee (as part of the requirements for admission to classified status). At least 18 of these units must be in political science, of which 15 units, must be 500-level courses. Three to six units may be a thesis or project. A comprehensive final written examination and an oral examination are required.

No more than 9 units of postgraduate work taken prior to classified status may be applied to a student's master's degree program.

For advisement and further information, consult the Department of Political Science.

See also "The Program of Master's Degrees, page 71, and the *Graduate Bulletin*.

### **MASTER OF PUBLIC ADMINISTRATION**

The general objective of the program is to educate persons for the vital area of managing public agencies and functions. Within this, there are three specific objectives. First, to educate those who wish to enter a generalist career such as that of city manager, county manager, or city administrative officer. Second, to increase the competence of those already embarked on a general administrative career. Third, to aid functional specialists who feel the need for a broader education in administration due to promotion into an administrative position within the functional specialty. This would include employees in such areas as public works, planning, personnel, and finance.

### **Prerequisites**

A student desiring to enter the program must have a bachelor's degree from an accredited institution with an undergraduate major in political science or a combination of courses and work experience which the M.P.A. coordinator evaluates as satisfactory experience. Additional prerequisites are a B average in the upper division courses in the student's major and satisfactory completion of the Aptitude Test of the Graduate Record Examination.

Students with limited subject or grade point deficiencies, but who have extensive experience in an administrative capacity, may be classified in the program after they have demonstrated their ability for advanced work by taking 6-9 units of approved courses with grades of not less than B. Such courses are in addition to those required on the graduate program.

# Psychology

## Program of Study

The degree study plan must include 30 units of committee-approved coursework of which 15 must be at the 500 level. A minimum of 15 units must be in public administration, but the remainder may be assigned on an interdisciplinary basis from courses related to the needs of individual students. Unless the student has had acceptable governmental experience, he must undertake an internship (Political Science 497). Course requirements will include a thesis or project.

No more than 9 units of postgraduate work taken prior to classified status may be applied to a student's master's degree program.

For advisement and further information, consult the Department of Political Science.

See also "The Program of Master's Degrees, page 71, and the *Graduate Bulletin*.

## DEPARTMENT OF PSYCHOLOGY

Professors: Lindley, Schmidt, Tsai

Associate Professors: Calhoun, Carlson, Curtis, Dondis (chairman)

Assistant Professors: Ebersole, Krivanek, Lindner, McFarland, Newell, Perkins, Schweitzer, Thomas

Lecturers: Fitch, Smith, Stearns, Watson

### BACHELOR OF ARTS IN PSYCHOLOGY

The major in psychology consists of 36 units of lower and upper division work designed for students (1) who want a sound background in psychology as a science, (2) who want a basic understanding of human behavior as a supplement to some other major course of study, and (3) those who wish to acquire a thorough undergraduate training in psychology in anticipation of graduate study.

#### Requirements for the Major

##### Lower Division

##### Units

Psychology 101	Introductory Psychology .....	3
Psychology 161	Elementary Statistics .....	3
Psychology 202	Principles of Psychology .....	3

##### Upper Division

A minimum of 27 units of upper division work is required for a major in psychology. Fifteen units are required as follows:

Psychology 302	Experimental Psychology: Learning and Motivation	3
Psychology 303	Experimental Psychology: Sensation Perception <i>or</i>	
Psychology 321	Physiological Psychology .....	3
Psychology 351	Social Psychology <i>or</i>	
Psychology 331	Psychology of Personality .....	3
Psychology 461	Group Psychological Testing .....	3
Psychology 408	History of Psychology .....	3

A minimum of 12 additional units in psychology courses will be selected in consultation with the academic adviser. Not more than 3 units of Psych. 499, Independent Study, may be counted toward the major.

#### Recommend Related Courses

Courses from each of the following areas according to the student's interests:

- (1) social sciences;
- (2) physical sciences;
- (3) biological sciences;
- (4) mathematics;
- (5) humanities.



Students planning to do graduate work in psychology are advised to plan additional work in biological, physical, and computer sciences and to include at least a one-semester course in college mathematics. Undergraduate work in foreign languages is also recommended.

### MASTER OF ARTS IN PSYCHOLOGY

This degree is planned to extend the body of psychological knowledge developed in the undergraduate major and result in the development of greater depth in understanding the content of psychology; increased skill in research capabilities; the professional reporting of research; potential career skills; and sound preparation for students planning to go on to advanced graduate work. On completion of this program, students will have a better understanding of the many and complex disciplines in psychology as well as an understanding of related behavioral and scientific areas of study.

#### Prerequisites

Students to be admitted to the program must: (1) meet the general prerequisites for graduate work formulated and recommended by the college; (2) have completed a bachelor's degree with a major in psychology or 24 units in upper division psychology including a course in statistics, a course in the history of psychology, an upper division laboratory course in psychology, at least two of the following courses: physiological psychology, learning, sensation and perception, motivation, and at least one of the following courses: social psychology, personality, developmental psychology; psychological testing; (3) have completed a course in college mathematics, a course in the biological sciences, and a course in sociology or anthropology; (4) have completed a baccalaureate degree with a 2.5 general average and a 3.0 average in psychology; (5) show satisfactory performance on the aptitude test and the advanced test in psychology, which are parts of the Graduate Record Examination.

#### Program of Study

The Master of Arts in Psychology requires a minimum of 24 units of approved graduate work in the major field, including the completion and acceptance by the Psychology Department Graduate Study Committee of a written thesis, plus six units of approved work for graduate credit from other related areas.

The student, in consultation with an adviser on the staff of the Psychology Department, shall develop a program of studies which will be submitted to the Graduate Study Committee of the Department of Psychology for approval.

Course requirements for the M.A. in Psychology:

	Units	Totals
Psychology 500 Advanced General Psychology.....	3	
Psychology 510 Experimental Design .....	3	
Psychology 520 Seminar: Experimental Psychology.....	3	
Psychology 521 Seminar: Personality or Psychology 551 Seminar: Social Psychology .....	3	
Psychology 598 Thesis.....	3-6	15-18
Related courses outside psychology.....	6	6
Elective courses in psychology.....	6-9	6-9
Total units for M.A. in psychology.....		30

Students will be required to pass a comprehensive examination in psychology in addition to satisfactory performance in the above courses.

For further information, consult the Department of Psychology.

See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.

## **DEPARTMENT OF SCIENCE AND MATHEMATICS EDUCATION**

Professors: Lay, R. Lepper, Turner (Chairman)

Associate Professors: Maloney, Woyski

Assistant Professors: Bachman, Streitberger, Williams

Lecturers: Allan, Pagni, Waian

The Department of Science and Mathematics Education offers three programs in the general science area: Earth Science Program, Nature Interpretation and Conservation Program; and the Science and Mathematics Education Program. Degrees and curricula offerings in each area are described below.

### **PROGRAM IN EARTH SCIENCES**

#### **BACHELOR OF ARTS IN EARTH SCIENCE**

This program is designed to provide a broad foundation in the earth sciences to prepare students for (1) graduate work in one of the earth sciences, (2) teaching earth science in secondary and elementary schools, (3) employment in government and industry, and (4) other major fields supported by an earth science minor.

To qualify for the bachelor of arts in earth science, students must have a C average in all courses required for the major including those in related fields. No credit will be allowed toward the major for earth science courses passed with a grade of D. A proficiency in one modern foreign language (German, Russian, French, others by petition) is required. This requirement is normally met by completing one semester of readings in scientific foreign language (303) with a grade of C or better. Alternatives may be substituted by petition. Proficiency in English composition is required. This requirement is normally met by passing an upper division course in composition; the department may waive the requirement for students who consistently submit written work of superior quality.

#### **Minimum Course Requirements for the Earth Science Major**

Of the 124 units required for graduation, 36 units are in earth science, 45 units in related fields, 35 units in general education courses which are not included among the related fields, and eight units are undesignated.

The upper division units in earth science, Studies in Geoscience, are offered in four blocks which unify the major concepts of the geosciences. Each block consists of problems of increasing complexity designed to explore a wide variety of ideas and techniques. Each student may choose his own sequence of topics as he progresses through a block, and may progress at his individual rate. Although each student is required to take all the blocks, he is free to develop his special interests within the framework provided.

#### **Courses in Earth Science**

##### **Lower Division**

101	Physical Geology .....	4
102	Historical Geology .....	4

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Total .....	8
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## Courses in Earth Science

### Upper Division

	<i>Units</i>
301 Studies in Geoscience, geochemistry .....	6
302 Studies in Geoscience, geobiology .....	6
350 General Astronomy .....	4
401 Studies in Geoscience, geo-fluids .....	6
402 Studies in Geoscience, geophysics .....	6

Total ..... 28

Total ..... 36

### Courses in Related Fields

Mathematics 150A,B Anal Geom and Calculus .....	8
Chemistry 101A,B General Chemistry .....	10
Physics 225A,C,D and 226A,C Fundamental Physics .....	11
Biological Science 101 Elements of Biology .....	5
Geography 312 Geomorphology .....	3
Electives, chosen from related fields in consultation with major adviser .....	9

Total ..... 46

General education courses, not including those in related fields ..... 28

Electives, undesignated ..... 14

Total ..... 88

## RECOMMENDED PROGRAM FOR A MAJOR IN EARTH SCIENCE

### High School Preparation

Mathematics—4 years, including trigonometry

Chemistry and/or Physics

Modern Foreign Language—3 years (German, Russian, or French preferred)

*Alternate courses* if high school preparation is deficient:

Trigonometry (junior college)

Chemistry 100 (3 units)

German 101 and 102 or Russian 101 and 102 (10 units)

<i>Freshman I</i>	<i>Units</i>	<i>Freshman II</i>	<i>Units</i>
Math 150 A An Geom and Calc. ....	3	Math 150B An Geom and Calc. ....	4
Chem 101A General Chem. ....	5	Chem 101B General Chem. ....	5
Earth Sci 101 Physical Geol. ....	4	Earth Sci 102 Hist Geol. ....	4
American Hist. ....	3	Poly Sci 100 .....	3
	16		16

<i>Sophomore I</i>	<i>Units</i>	<i>Sophomore II</i>	<i>Units</i>
Physics 225, 226A Funda. ....	4	Physics 225, 226C Funda. ....	4
Earth Sci 350 Gen Astronomy. ....	4	Bio Sci 101 Principles .....	5
Geog 312 Geomorphology .....	3	General education courses .....	7
General education courses .....	6		16
	17		

## Science and Mathematics Education

<i>Junior I</i>		<i>Units</i>	<i>Junior II</i>		<i>Units</i>
Earth Sci 301	Studies in Geosci.....	6	Earth Sci 302	Studies in Geosci.....	6
Physics 225D	.....	3	General education course	.....	3
Elective in related field	.....	3	Elective in related field	.....	3
English 301 or writing	.....	3	Foreign Languages 303	Reading..	3
		—			—
		15			15
<i>Senior I</i>			<i>Senior II</i>		
Earth Sci 401	Studies in Geosci.....	6	Earth Sci 402	Studies in Geosci.....	6
Elective in related field	.....	3	Electives	.....	9
Electives	.....	6			—
		—			15
		15			

### MINOR IN EARTH SCIENCE

A minimum of 20 units are required for a minor. These will typically include eight units of lower division earth science and 12 units of Studies in Geoscience. The topics for study shall be selected by the student in consultation with his minor adviser.

### EMPHASIS IN NATURE INTERPRETATION AND CONSERVATION

In recognition of the need for education in nature interpretation and conservation the Department of Science and Mathematics Education is developing coursework in these disciplines. Much of the coursework for these areas will take place at the nearby Tucker Wildlife Sanctuary. This sanctuary has been designated as a center for research and nature interpretation. In addition to research and coursework, the sanctuary will provide a continuing public service to the community through its daily programs in nature interpretation. This service is provided by resident professor-naturalists and student-naturalists in training at the facility. School groups as well as adults are invited to attend the regularly scheduled programs.

### Courses Presently Offered

- 350 Field Biology and Conservation(3)
- 454 Seminar: Public Contact Procedures (2)
- 460 Applied Conservation(4)
- 470 Field and Museum Interpretation Techniques(3)
- 479A,B Supervised Naturalist Activities(3,3)

Additional courses leading to departmental certification in Conservation Studies and a possible graduate degree program are in preparation. Students interested in such coursework should contact the Department of Science and Mathematics Education for additional information.

### PROGRAM IN SCIENCE AND MATHEMATICS EDUCATION

The Department of Science and Mathematics Education prepares students to teach in the areas of science and mathematics at the elementary and secondary levels, provides guidance for experienced teachers in the study and use of educational practices developed for the teaching of sciences and mathematics and helps teachers develop original ideas in their areas of specialization.

The offerings of this department include basic professional training courses required for teacher certification, advanced coursework in science and mathematics education, and certain academic content offerings designed especially for teacher preparation.

Requirements for teaching majors and minors in science and mathematics are listed under the respective academic departments.



## REQUIRED COURSEWORK

The following courses offered by the Department of Science and Mathematics Education are required for teaching credential candidates.

**Elementary School Credential Candidates—Any Major**

- Math Ed 303A Fund Concepts of Math—Arithmetic  
 Sci Ed 310 Elementary Experimental Science

**Secondary School Credential Candidates—Science**

- Sci Ed 442 Teaching Science in the Secondary School  
 Sci Ed 749 Student Teaching in Science—Secondary

**Secondary School Credential Candidates—Mathematics**

- Math Ed 303A,B Fund Concepts of Math—Arithmetic  
 Math Ed 311 Fund Concepts of Math—Algebra  
 Math Ed 312 Fund Concepts of Math—Geometry  
 Math Ed 442 Teaching Mathematics in the Secondary School  
 Math Ed 749 Student Teaching in Mathematics—Secondary

## DEPARTMENT OF SOCIOLOGY

Professor: Davis

Associate Professors: Copp, Jacobson, Palisi, Poorkaj, Smith, Works (Chairman)

Assistant Professors: Bedell, Bell, Capune, Derenne, Feingold, Lackey, Mend, Rosen, Tygart, Walshok

Lecturer: Sutherland

## BACHELOR OF ARTS IN SOCIOLOGY

The major in sociology provides knowledge concerning the structure and functioning of human society. It may serve as preparation for: (1) graduate study in sociology and careers in teaching and research, (2) employment or graduate study in social work, corrections and related careers, or (3) careers in business and industry, various areas of government service, and the study of law. Sociology has applications to a wide range of careers and to participation as a citizen.

**Unit Requirements**

The required minimum for the major is 42 units, in addition to those taken for the general education requirement, distributed as follows:

**Courses in Sociology**

Thirty units must be taken in sociology, 24 in upper division courses. Sociology 201 is required, and 3 additional units are acceptable from lower division offerings. The minimum of 24 upper division units must include 331A, 331B, 341, 481, and at least one of the following: 436, 470, 473, 477.

Minimum units \_\_\_\_\_ 30

**Related Courses**

Twelve *upper division* units are to be taken in the related fields of anthropology, economics, geography, history, political science, and psychology, to be approved by the major adviser.

Minimum units \_\_\_\_\_ 12

Minimum total units for the major \_\_\_\_\_ 42

## Sociology

### TEACHING MINOR IN SOCIOLOGY

For teaching credential purposes a minor consists of 21 units in sociology, distributed as follows:

	Credits
201 .....	3
202 or 411 or 413 or 431 .....	3
341 or 451 .....	3
477 or 480 or 481 .....	3
Electives in sociology .....	9
	<hr/> 21

### MASTER OF ARTS IN SOCIOLOGY

The program for this degree provides advanced study in general sociology. It offers an opportunity to broaden one's knowledge of society, to strengthen skills of sociological analysis, and to do research in depth in an area of particular interest. It may be used as preparation for study toward the doctorate in sociology, for junior college teaching, participation in research, or for a variety of positions in business and industry, corrections, the community, or government.

#### Prerequisites

Admission to the program requires a minimum of 18 upper division units in sociology, including the following courses or their equivalents:

331A Social Research Methods (design, collecting data, etc.)

331B Social Research Methods (elementary statistics)

341 Social Interaction

481 Sociological Theory

Also required is a GPA of 3.0 (B) for all work in sociology and a 2.5 average for all previous college work. Students with limited grade or course deficiencies may be considered for admission to the program upon attaining a B average in courses approved by the Graduate Coordinator.

#### Program of Study

The study plan for the degree must include the following:

1. Sociology 530 Advanced Statistical Analysis .....	3
2. Sociology 531 Advanced Methods and Measurements in Sociology .....	3
3. Sociology 581 Analysis of Sociological Theory .....	3
4. Sociology 598 Thesis .....	6
5. Required additional units of graduate work in sociology .....	9
6. Work which may be graduate or upper division sociology or related fields in any combination .....	6
	<hr/> 30

To complete the requirements, the candidate must successfully defend the thesis in an oral examination by a committee.

Additional seminars, or Sociology 599, Independent Graduate Research, may be used for requirement "5", but not in lieu of the thesis. Normally the student will register for thesis two different times, for three units each semester.

For further information, consult the Department of Sociology.

Also see "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.



## **DEPARTMENT OF SPEECH COMMUNICATION**

### **(Communicology)**

Professors: Andersen, Fessenden, Long,\* Nelson

Associate Professors: Enell,\* Good, Granell (Chairman), Kaplan, Nicolas, Riley

Assistant Professors: Booth, Cockerham, Flocken, Harris, Keele, Koehler, Treon

Lecturer: Grissom

Coursework in the Department of Speech Communication investigates individual and group communication as a part of the larger process of human interaction. Such investigation analyzes past theories of communication and persuasion as well as contemporary communication practices in business, politics, religion and private life. It examines the essential qualities and varieties of oral language, the physical production of speech, the nature and treatment of communication disorders, and the means used to affect social control and disseminate information.

### **COURSE PROGRAMS**

The major in Speech for the Bachelor of Arts degree requires a total of 36 units, 24 of which must be in 300-and 400-level courses.

Course programs are planned (1) to prepare students who seek a liberal arts emphasis in speech communication as a means for becoming an intellectually independent citizen and consumer, (2) to prepare students who seek to become communication experts in business or government, (3) to prepare students who seek to apply communication skills in the ministry, law, business or other areas in which effective communication is basic, (4) to prepare students who seek either a Standard Teaching Credential or a Restricted Credential authorizing service as a speech and hearing specialist.

#### **Major in Speech With Emphasis in Public Address**

##### **Lower Division Requirements:**

An advanced course in oral communication: Speech Communication 102

A basic course in logic and evidence: Speech Communication 235

Up to 6 units of electives selected from Speech Communication 120, 138, 202, 211, 230

##### **Upper Division Requirements:**

A course in group process: Speech Communication 324

A course in phonetics or communication disorders: Speech Communication 341 or 342

A course in persuasion: Speech Communication 334

An advanced course in argument: Speech Communication 335

A course in communication theory: Speech Communication 420

A course in rhetorical history: Speech Communication 430 or 434

Electives in public address, adviser approved, to complete the required 36 units

#### **Major in Speech with Emphasis in Speech Pathology—Audiology**

##### **Lower Division Requirements:**

An advanced course in oral communication: Speech Communication 102

6 units of electives selected from Speech Communication 120, 138, 202, 211, 230, 235

##### **Upper Division Requirements:**

A course in persuasion: Speech Communication 334

A course in phonetics: Speech Communication 341

A course in speech science: Speech Communication 340

\* College administrative officer.

## TEACHING MINOR IN SOCIOLOGY

For teaching credential purposes a minor consists of 21 units in sociology, distributed as follows:

	Credits
201	3
202 or 411 or 413 or 431	3
341 or 451	3
477 or 480 or 481	3
Electives in sociology	9
	<hr/> 21

## MASTER OF ARTS IN SOCIOLOGY

The program for this degree provides advanced study in general sociology. It offers an opportunity to broaden one's knowledge of society, to strengthen skills of sociological analysis, and to do research in depth in an area of particular interest. It may be used as preparation for study toward the doctorate in sociology, for junior college teaching, participation in research, or for a variety of positions in business and industry, corrections, the community, or government.

### Prerequisites

Admission to the program requires a minimum of 18 upper division units in sociology, including the following courses or their equivalents:

331A Social Research Methods (design, collecting data, etc.)

331B Social Research Methods (elementary statistics)

341 Social Interaction

481 Sociological Theory

Also required is a GPA of 3.0 (B) for all work in sociology and a 2.5 average for all previous college work. Students with limited grade or course deficiencies may be considered for admission to the program upon attaining a B average in courses approved by the Graduate Coordinator.

### Program of Study

The study plan for the degree must include the following:

1. Sociology 530 Advanced Statistical Analysis	3
2. Sociology 531 Advanced Methods and Measurements in Sociology	3
3. Sociology 581 Analysis of Sociological Theory	3
4. Sociology 598 Thesis	6
5. Required additional units of graduate work in sociology	9
6. Work which may be graduate or upper division sociology or related fields in any combination	6
	<hr/> 30

To complete the requirements, the candidate must successfully defend the thesis in an oral examination by a committee.

Additional seminars, or Sociology 599, Independent Graduate Research, may be used for requirement "5", but not in lieu of the thesis. Normally the student will register for thesis two different times, for three units each semester.

For further information, consult the Department of Sociology.

Also see "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.



## **DEPARTMENT OF SPEECH COMMUNICATION**

### **(Communicology)**

Professors: Andersen, Fessenden, Long,\* Nelson

Associate Professors: Enell,\* Good, Granell (Chairman), Kaplan, Nicolas, Riley

Assistant Professors: Booth, Cockerham, Flocken, Harris, Keele, Koehler, Treon

Lecturer: Grissom

Coursework in the Department of Speech Communication investigates individual and group communication as a part of the larger process of human interaction. Such investigation analyzes past theories of communication and persuasion as well as contemporary communication practices in business, politics, religion and private life. It examines the essential qualities and varieties of oral language, the physical production of speech, the nature and treatment of communication disorders, and the means used to affect social control and disseminate information.

### **COURSE PROGRAMS**

The major in Speech for the Bachelor of Arts degree requires a total of 36 units, 24 of which must be in 300-and 400-level courses.

Course programs are planned (1) to prepare students who seek a liberal arts emphasis in speech communication as a means for becoming an intellectually independent citizen and consumer, (2) to prepare students who seek to become communication experts in business or government, (3) to prepare students who seek to apply communication skills in the ministry, law, business or other areas in which effective communication is basic, (4) to prepare students who seek either a Standard Teaching Credential or a Restricted Credential authorizing service as a speech and hearing specialist.

#### **Major in Speech With Emphasis in Public Address**

##### **Lower Division Requirements:**

An advanced course in oral communication: Speech Communication 102

A basic course in logic and evidence: Speech Communication 235

Up to 6 units of electives selected from Speech Communication 120, 138, 202, 211, 230

##### **Upper Division Requirements:**

A course in group process: Speech Communication 324

A course in phonetics or communication disorders: Speech Communication 341 or 342

A course in persuasion: Speech Communication 334

An advanced course in argument: Speech Communication 335

A course in communication theory: Speech Communication 420

A course in rhetorical history: Speech Communication 430 or 434

Electives in public address, adviser approved, to complete the required 36 units

#### **Major in Speech with Emphasis in Speech Pathology—Audiology**

##### **Lower Division Requirements:**

An advanced course in oral communication: Speech Communication 102

6 units of electives selected from Speech Communication 120, 138, 202, 211, 230, 235

##### **Upper Division Requirements:**

A course in persuasion: Speech Communication 334

A course in phonetics: Speech Communication 341

A course in speech science: Speech Communication 340

\* College administrative officer.

## Speech Communication

- A general course in speech correction: Speech Communication 342  
An advanced course in speech pathology: Speech Communication 441  
A course in audiology: Speech Communication 463  
Electives in speech pathology—audiology, adviser approved, to complete the required 36 units.

### STANDARD TEACHING CREDENTIAL PROGRAMS

#### General Elementary Credential

##### *Lower Division Requirements:*

A minimum of 9 units to include Speech Communication 102, 202, 235

##### *Upper Division Requirements:*

Speech Communication 301, 324, 334, 335, 342, 430 or 434 and 6 to 9 units of adviser approved electives.

#### General Secondary Credential

##### *Lower Division Requirements:*

Speech Communication 102, 138, 211 or 311, 235

##### *Upper Division Requirements:*

Speech Communication 324, 334, 335, 338, 341 or 342, 430 or 434, 442 and 6 units of adviser-approved electives.

The fifth year is required for either of the above credential programs. Speech Education 442 must be taken by the student seeking the secondary teaching credential before he can be approved for student teaching.

For a junior college credential the student follows the program given for the secondary school credential. In addition, the Master of Arts degree in Speech is required.

#### Program Leading to the Restricted Credential Authorizing Service as a Speech and Hearing Specialist

- I. Bachelor of Arts Degree—Major in Speech with emphasis in Speech Pathology and Audiology. (See Speech Major section, above)
- II. A fifth year of specialized preparation (full-time pursuit of upper division and/or graduate course work)
- III. Preparation must include a minimum of 65 semester hours of coursework and clinical practice as follows:

Human Development and Bases for Speech, Hearing and Language, and Goals of Public Education:

	<i>Units</i>
Speech Communication 340 Speech Science.....	3
Speech Communication 341 Phonetics.....	3
Speech Communication 403 Speech and Language Development.....	3
Psychology 361 Developmental Psychology (3) <i>or</i>	
Education 312 Human Growth and Development (3) .....	3
Psychology 311 Educational Psychology (3) <i>or</i>	
Education 311 Psychological Foundations (4).....	3-4
Speech Communication 402 Phonetic Analysis of Speech (3) <i>or</i>	
Linguistics 406 Descriptive Linguistics (3) <i>or</i>	
adviser-approved related courses .....	3
	<hr/>
	18-19

#### Disorders of Speech, Hearing and Language Primary Field:

Speech Communication 342 Survey of Problems in Communication.....	3
Speech Communication 441 Speech Pathology: Non-Organic.....	3
Speech Communication 443 Speech Pathology: Organic.....	3
Speech Communication 451 Diagnostic Methods in Speech and Hearing.....	3



	<i>Units</i>
Speech Communication 452 Therapeutic Methods in Speech and Hearing	3
Speech Communication 463 Audiology .....	3
Speech Communication 464 Audiometry .....	3
Speech Communication 465 Speech Reading and Auditory Training.....	3
Speech Communication 557 Articulation, Voice, Stuttering, Aphasia, etc.	6
(3) repeated for a total of 6 units.....	6
<b>Related Areas:</b>	
Education 471 Exceptional Children .....	3
Education 452 Principles of Guidance (3) <i>or</i>	
Education 477 The Educationally Handicapped Child (3) <i>or</i>	
adviser-approved related courses .....	3
	<hr/> 36
<b>Clinical Practice and Student Teaching in Speech and Hearing:</b>	
Speech Communication 458 Clinical Practice .....	3
Speech Communication 558(a) Advanced Clinical Practice.....	2
Speech Communication 558(b) Advanced Clinical Practice.....	2
Speech Communication 459 Clinical Practice and Student Teaching in	
Speech Correction and Lip Reading.....	4
	<hr/> 11

#### **MINOR IN SPEECH**

The minor for secondary teaching or junior college teaching is 22 units as follows: Speech Communication 100 (not to be included as credit for minor), 138, 102, 235, 324, 334, 342, 430 or 434 and 442.

#### **MASTER OF ARTS IN SPEECH**

This degree, with concentrations in public address or speech pathology and audiology, is a coordinated program of graduate studies to provide incentive for intellectual growth, to prepare business communication specialists, to contribute to improvement in teaching and professional advancement, and to provide a sound basis for continued graduate study in speech. The student is expected to demonstrate a high degree of intellectual and creative competence, to evaluate critically, and to show mastery of his field of concentration.

#### **Prerequisites**

In addition to the college requirements, students admitted to this program must possess at least 24 semester units of upper division studies in speech communication and adviser-approved background studies supporting the area of emphasis: a minimum of 18 semester units must be in or directly related to the area of emphasis. To advance in the program, students must pass an oral qualification examination and demonstrate their effectiveness in graduate studies in the initial courses taken.

#### **Program of Study**

The degree study plan will include at least 30 units of adviser-approved graduate studies, 15 units of which must be in 500-level courses. Each program will have at least 15 units in one of the areas of concentration; a core of six units, to include Speech Communication 500 (Seminar in Speech Research taken prior to classification), and Speech Communication 597, Project, Speech Communication 598, Thesis, or Speech Communication 599, Independent Research; and six units of adviser-approved supporting courses in related fields. A written comprehensive examination is required of all candidates.

For further information, consult the Department of Speech Communication.

See also "The Program of Master's Degrees," page 71, and the *Graduate Bulletin*.





# DIVISION OF LIBRARY SCIENCE

Acting Director: Mrs. Doris H. Benke

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## MASTER OF SCIENCE IN LIBRARY SCIENCE

The Division of Library Science provides graduate education for librarianship with a primary focus on the basic principles of library service. The program initially will offer enough basic courses to meet the requirements for a minor for the secondary teaching credentials and electives for the master's degree with a specialization in school librarianship. This will authorize a teacher to serve as a school librarian. The minimum coursework required for the specialized preparation is 24 units and the minimum for the master's specialization is 30 units.

The courses for the initial credential program and the foundation courses for the M. S. L. S. are Library Science 411, Library Science 412, Library Science 413, and English 411. Children's Literature 414 in the school library would meet the requirements for the specialized preparation applicable to the standard teaching credentials.

## LIBRARY SCIENCE

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public and academic librarianship.





# DIVISION OF LIBRARY SCIENCE

Acting Director: Mrs. Doris H. Banks

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## MASTER OF SCIENCE IN LIBRARY SCIENCE

The Division of Library Science provides graduate education for librarianship with a primary focus on the basic principles of library service. The program initially will offer enough basic courses to meet the requirements for a minor for the standard teaching credentials and electives for the master's degree with a specialization in school librarianship. This will authorize a teacher to serve as a school librarian. The minimum coursework required for the specialized preparation is 24 units and the minimum for the master's specialization is 30 units.

The courses for the initial credential program and the foundation courses for the M. S. L. S. are Library Science 500, 501, 502, 503, 504, and 505. The addition of English 433, Children's Literature, and 90 hours of supervised student teaching in the school library would meet the requirements for specialized preparation applicable to the standard teaching credentials.

As soon as possible, additional courses will be offered sufficient to meet the full requirements for the master's degree with options for specializations in special, public and academic librarianship.





## GENERAL COURSE NUMBERING SCHEME

Lower division courses of freshmen and sophomore level are numbered in the upper division system.

Upper division courses of junior and senior level which earn college credit are numbered in the upper division system. Courses which are a credential or graduate degree program but which do not earn credit are numbered in the lower division system.

Upper division courses of junior and senior level which do not earn credit when taken by a graduate student of the University are numbered in the graduate program(s).

Graduate courses organized primarily for graduate students are numbered in the graduate program(s).

Graduate professional courses are numbered in the graduate program(s).

Graduate degree courses are numbered in the graduate program(s).

# ANNOUNCEMENT OF COURSES

## PREREQUISITES

Students are expected to meet stated prerequisites for all courses. Prerequisites are listed in the course catalog and in the description of the course. If a student is unable to meet prerequisites by the time of registration, the student may be allowed to meet prerequisites by alternative means.

## INDEPENDENT STUDY

Independent study is a course of special interest beyond the scope of a regular course, or a course of special interest to a faculty adviser. The work is of a research or creative nature and usually culminates in a paper, project, composition or experiment. Before registering, the student must get his topic approved by the faculty adviser who will be supervising independent study. The catalog number for independent study in departments are 499 and 599. Independent study courses are not graded. A student wishing to enroll in more than six units of independent study in any one semester must have the approval of his major adviser and of the chairperson of the department(s) in which the independent study is to be conducted.

See also page 51.





## GENERAL COURSE NUMBERING CODE

- 100-299 Lower division courses of freshman and sophomore level, but open also to upper division students.
- 300-399 Upper division courses of junior and senior level, which do *not* give graduate credit unless included on an approved graduate study plan (such as a credential or graduate degree program) for a specific graduate student.
- 400-499 Upper division courses of junior and senior level which give graduate credit when taken by a graduate student. (Note limitations in specific graduate programs.)
- 500-599 Graduate courses organized primarily for graduate students.\*
- 700-799 Graduate professional courses in the postgraduate program, not applicable to graduate degrees.

## PREREQUISITES

Students are expected to meet stated prerequisites for all courses. However, in exceptional cases, and at the discretion of the division in which the course is taught, students may be allowed to meet prerequisites by examination.

## INDEPENDENT STUDY

Under the independent study program, the upper division student can pursue topics or problems of special interest beyond the scope of a regular course under the supervision of a faculty adviser. The work is of a research or creative nature, and normally culminates in a paper, project, comprehensive examination, or performance. Before registering, the student must get his topic approved by the professor who will be supervising independent study. The catalog numbers for independent study in departments are 499 and 599. Independent study courses may be repeated. A student wishing to enroll in more than six units of independent study in any one semester must have the approval of his major adviser and of the chairman of the department(s) in which the independent study is to be conducted.

\* Note exceptions on page 63.





# SCHOOL OF THE ARTS

## ART

### **100 Exploratory Course in Art (3)**

Exploration and creative use of a variety of art materials, processes, and concepts. Field trips required. Not open to art majors for credit except by permission of the Art Department. (6 hours activity)

### **101 Introduction to Art (3)**

A course for the general student designed to develop an understanding of historical and contemporary art forms. Illustrated with examples of painting, sculpture, architecture, and design. Field trips required. Not open to art majors for credit except by permission of the Art Department.

### **103 Two-dimensional Design (3)**

The inventive use of materials, tools, and elements of plastic organization as related to a two-dimensional surface. (6 hours activity)

### **104 Three-dimensional Design (3)**

The inventive use of materials, tools, and elements of plastic organization as related to three-dimensional form. (6 hours activity)

### **106A,B Beginning Ceramics (3,3)**

Prerequisite: Art 103. A basic course in the study of form as related to ceramic materials, tools, processes, and concepts. (6 hours activity)

### **107A,B Beginning Drawing and Painting (3,3)**

Beginning work in the creative use of the materials of drawing and painting with emphasis on visual concepts, use of medium, individual exploration, and growth, planning and craftsmanship. 107A emphasizes drawing;

107B emphasizes painting. (9 hours laboratory)

### **111 Fundamentals of Art (3)**

A comparative study of the elements of plastic organization in relation to personal and cultural aesthetic expression and concepts. Fundamental art ideas, problems of organization and structure, and terminology. Field trips required.

### **117A,B,C,D Life Drawing (1,1,1,1)**

Drawing from the live model. 117B will include working from the model with three-dimensional materials. (3 hours laboratory for each unit)

### **123A,B Descriptive Drawing (3,3)**

An intensive study of traditional and contemporary drawing techniques and theories. Emphasis in 123A on representation of nature forms and in 123B on man-made and mechanical forms including linear perspective. (9 hours laboratory)

### **201A,B Art and Civilization (3,3)**

A comparative survey of the basic ideas, forms, and styles of the visual arts as they developed in various cultures from prehistoric time to the present day.

### **205A,B Beginning Crafts (3,3)**

Prerequisites: Art 103 and 104. Art 104 may be taken concurrently. A study of form as related to the concepts, materials, and processes involved in the making

## Art

of both two- and three-dimensional art forms from wood, metal, plastics and paper. 205B will emphasize wood. (6 hours activity)

### **207A,B Drawing and Painting (Experimental Methods and Materials (3,3))**

Prerequisites: Art 117A,B, Art 107A,B or the equivalents. An intensive study of traditional and contemporary methods and materials as they relate to current approaches in drawing and painting. (9 hours laboratory)

### **216A,B Beginning Sculpture (3,3)**

Prerequisite: Art 104. An introductory course in sculpture with emphasis on the creative use of wood and metal, power equipment and hand tools. (6 hours activity)

### **223A,B Lettering, Typography and Rendering (3,3)**

Prerequisite: Art 103. A study of the history, design and use of letter forms including techniques for rough and comprehensive layouts and the use of both hand-lettered forms and handset type. (6 hours activity)

### **247 Beginning Printmaking (3)**

Prerequisite: Art 107A,B. An introductory course of all printmaking forms to include litho, etching, woodcut and serigraphy. (6 hours activity)

### **286 Design for the Theatre (3)**

(Same as Theatre 286.)

### **301 Ancient Art (3)**

A study of the developments in art from the Paleolithic to the period of late antiquity.

### **302 Medieval Art (3)**

A study of the developments in art from the period of late antiquity through the Gothic.

### **305A Crafts (3)**

Prerequisite: Art 205A. Study and evaluation of craft concepts, processes, and materials as they relate to the development of utilitarian and aesthetic form. (9 hours laboratory)

### **305B Crafts (3)**

Prerequisite: Art 205B. A study and evaluation of craft concepts and processes as they relate to the development of wood into utilitarian and aesthetic form. (9 hours laboratory)

### **306A,B Advanced Ceramics (3,3)**

Prerequisite: Art 106A,B. Further experiences in the study and evaluation of form as related to the creative use of ceramic concepts and materials including design, forming, glazing, and firing. (6 hours activity)

### **307A,B Drawing and Painting (3,3)**

Prerequisites: Art 117A,B,C, 107A,B, 207A,B or equivalents. The study, evaluation and creative use of the concepts and materials of drawing and painting with emphasis on individual exploration, growth, planning and craftsmanship. (9 hours laboratory)

### **310A,B Drawing and Painting: Techniques and Approaches for the Classroom Teacher (3,3)**

Prerequisite: Art 100. The study and development of painting and drawing materials and approaches as they relate to elementary and secondary education. (6 hours activity)



**313A,B Interior Design (3,3)**

Prerequisites: Art 103, 123A. The elements and principles of design as they relate to the organization of our domestic environment. (6 hours activity)

**315A,B Jewelry (3,3)**

Prerequisites: Art 205A and 305A. Art 305A may be taken concurrently. Design and creation of jewelry. (9 hours laboratory)

**316A,B Sculpture (3,3)**

Prerequisites: Art 104 and 216A. (9 hours laboratory)

**317A,B Advanced Life Drawing (3)**

Prerequisite: three units lower division life drawing. Drawing and painting from the live model (9 hours laboratory)

**320 Paper: Structural and Decorative Techniques (3)**

Prerequisites: Art 103 and 104. An exploration of the structural and decorative aspects of construction with paper, emphasizing three-dimensional design. Such techniques as papier maché, paper sculpture, paper folding and paper appliqué will be considered through a variety of paper surfaces. (6 hours activity)

**323A,B Graphic Design (3,3)**

Prerequisites: Art 103 and 223A. Development and projection of ideas in relation to the technical, aesthetic, and psychological aspects of advertising art. (6 hours activity)

**325A,B Metalsmithing (3,3)**

Prerequisites: Art 205A and 305A. Art 305A may be taken concurrently. A study and evaluation of fundamental metalsmithing concepts, processes and materials as they relate to the development of utilitarian forms. (9 hours laboratory)

**329A,B Art and Technology (3,3)**

Creative activity in the context of modern technology. (9 hours laboratory)

**330 Threads and Fibers: Weaving Techniques for the Classroom Teacher (3)**

Prerequisites: Art 100 and 380. Creative design as it applies to various uses of threads and fibers: stitchery, weaving, macrame. Study the relation of textiles to world cultures. (6 hours activity)

**333A,B Product Design (3,3)**

Prerequisites: Art 103, 104 and 123A,B. Planning and designing of projects in relation to the technological, psychological and social aspects of contemporary society. (6 hours activity)

**336A,B Casting Techniques and Theories of Cast Sculpture (3,3)**

Prerequisite: Art 316A. Projects in various waxing molding and metal casting techniques. Media with emphasis on aluminum and bronze and the lost wax process. (9 hours laboratory)

**338A Creative Photography (3)**

Prerequisite: Art 103 or its equivalent. Exploration of the photographic media as a means of personal expression. Historical attitudes and processes are discussed in relationship to new materials and contemporary aesthetic trends. Field trips required. (9 hours laboratory)

**338B Creative Photography (3)**

Prerequisite: Art 338A. Further exploration of the photographic medium as a means of personal expression. Historical and new processes introduced as a vehicle toward the individual student's personal goal. Field trips required. (9 hours laboratory)

## Art

### **340 Ceramics: Techniques for the Classroom Teacher (3)**

Prerequisite: Art 100. Beginning work in the creative use of hand building processes, and glazing of ceramic ware. Related information on decorating processes, drying and firing kilns as they apply to appropriate teaching levels. Historical development of ceramics as it relates to various cultures.

### **347A Printmaking (3)**

Prerequisites: Art 107A,B and 117A,B,C. Development of concepts and exploration of materials involved in printmaking including etching, woodcut, aquatint, monoprint and serigraphy. ((9 hours laboratory)

### **347B Printmaking—Lithography (3)**

Prerequisites: Art 107A,B and 117A,B,C. Development of concepts and exploration of materials and techniques involved in lithography printing. (9 hours laboratory)

### **350A,B Painting for Non-Art Majors (3,3)**

Opportunities for students with little or no background in art to work creatively with various painting media both indoors and outdoors. (9 hours laboratory)

### **353A Textile Design and Construction: Fabric Printing (3)**

Prerequisite: Art 103. Concepts and processes of design as they relate to fabric surfaces with emphasis on various printing techniques.

### **353B Textile Design and Construction: Weaving (3)**

Prerequisite: Art 103. Concepts and processes of design as they relate to fabric surfaces with emphasis on various weaving techniques.

### **360 Elementary School Crafts (2)**

Studio activities and techniques of crafts appropriate to the elementary school. Strongly recommended for elementary teaching credential candidates. (4 hours activity)

### **363A,B Illustration (3,3)**

Prerequisite: Art 103, 107A,B and 117A,B,C. Development and projection of ideas relative to the needs of story, book, and magazine, and film illustration. (6 hours activity)

### **380 Art and Child Development (3)**

Prerequisites: Art 100 or equivalent and Educ 311. The study and evaluation of art concepts, materials, and processes as they relate to and promote child development. (6 hours activity)

### **406A,B Ceramic Analysis (3,3)**

Prerequisites: Art 106A,B and 306A. An introduction to the physical and chemical aspects of ceramic materials. Study and evaluation of ceramic materials as they are related to the development of the ceramic art form. (6 hours activity)

### **411 Foundations of Modern Art (3)**

Basic problems of painting and sculpture of the Realism, Impressionism, Post Impressionism periods.

### **412 Art of the 20th Century—1900 to Present (3)**

Fundamentals of modern painting, graphics, and architecture.

### **421 Oriental Art: China (3)**

A study of the historical development of the arts of China and their relation to Chinese philosophy and culture.



**422 Oriental Art: Japan (3)**

A study of the historical development of the arts of Japan and their relation to Japanese philosophy and culture.

**426 Glass Forming (3)**

Prerequisites: Art 106A,B, Art 306A, and approval of instructor. A course in the chemistry, handling and manipulation of glass and its related tools and equipment for the ceramic artist. (6 hours activity)

**431 Renaissance Art (3)**

Basic problems of painting, sculpture and architecture of the Renaissance period. Lectures, discussion and field trips.

**432 Baroque and Rococo Art (3)**

Basic problems of painting, sculpture and architecture of the Baroque and Rococo period. Lectures, discussion and field trips.

**451 Oceanic Art (3)**

An introductory survey of the styles of the aboriginal people of the following regions: Australia, Melanesia, Micronesia, Polynesia and Indonesia.

**452 Art of Sub-Saharan Africa (3)**

An introduction by region and tribal group to the art forms of West Coastal Africa and the Sudan, Niger River kingdoms, Yourba kingdoms, Cameroon chief-tainships. Congo tribes, Central Africa and East Coastal Africa.

**453A,B Display and Exhibition Design (2,2)**

A course in the appropriate and creative use of materials, processes, and design concepts as they relate to the special problems involved in the planning and preparing of displays, exhibits, bulletin boards, wall cases, and art portfolios. (More than 6 hours laboratory)

**461 Art of North American Indian (3)**

An introduction to the art forms and style groupings of the following American Indian groups: Eskimo, Pacific Northwest, California, Eastern Woodlands, Mound Builders, Southwestern and Northern Mexico.

**462 Art of Mesoamerica (3)**

An introduction to the art and architectural forms of Mesoamerica from the early, formative stages to the Spanish Conquest.

**471 Art of Central and South America (3)**

An introduction to the art styles and cultural regions of Central America and South America.

**481 Special Studies in Art History (1-3)**

Prerequisite: permission of the instructor. Opportunities for intensive study and evaluation in one area of art history and appreciation.

**483 Special Studies in Design (1-3)**

Prerequisite: permission of the instructor. Opportunity for intensive study in the design areas listed below. Each area listed may be repeated to a maximum of 8 units, but no more than 3 units of credit may be obtained in any one area in a single semester.

**483a Advertising Design** (2 hours activity for each unit)

**483b Interior Design** (2 hours activity for each unit)

**483c Design and Composition** (2 hours activity for each unit)

## Art

**483d Display Design** (More than 3 hours laboratory for each unit)

**483e Textile Design** (2 hours activity for each unit)

### **484 Special Studies in Ceramics (1-3)**

Prerequisite: a minimum of six upper division units in ceramics. Course may be repeated to a maximum of eight units, but not more than three units of credit may be obtained in any one area in a single semester. (2 hours activity for each unit)

### **485 Special Studies in Crafts (1-3)**

Prerequisite: a minimum of six upper division units in designated area or permission of the instructor. Opportunity for intensive study in the craft areas listed below. Each area listed may be repeated to a maximum of eight units, but no more than three units of credit may be obtained in any one area in a single semester. (2 hours activity for each unit)

**485a Jewelry**

**485b General Crafts**

**485c Metalsmithing**

**485d Weaving**

### **486 Special Studies in Sculpture (1-3)**

Prerequisites: Art 316A,B and permission of the instructor. Opportunity for intensive study in the following sculptural processes. May be repeated to a maximum of eight units but no more than three units of credit may be obtained in a single semester. (2 hours activity for each unit)

**486a Modeling and Fabrication**

**486b Casting**

### **487 Special Studies in Drawing and Painting and Printmaking (1-3)**

Prerequisite: permission of the instructor. Opportunity for intensive study in the drawing and painting areas listed below. Each area listed may be repeated to a maximum of eight units, but no more than three units of credit may be obtained in any one area in a single semester. (3 hours laboratory for each unit)

**487a Painting**

**487b Life Drawing**

**487c Drawing**

**487d Printmaking**

### **488A,B Advanced Scene Design (3,3)**

(Same as Theatre 488A, B)

### **489 Special Studies in Creative Photography (1-3)**

Prerequisite: Art 338A,B. Advanced projects in photography as a means of personal expression. May be repeated to a maximum of eight units but no more than three units of credit may be obtained in a single semester. (2 hours activity for each unit)

### **500 Graduate Seminar in Art (3)**

Selected advanced problems in art and art education. Each student will present research results in oral or written form.



**501 Graduate Seminar in Art History and Appreciation (3)**

Prerequisite: Art 500. Directed research with emphasis on the relationship between historical backgrounds and developments in art and the student's area of concentration. May be repeated to a maximum of eight units.

**502 Seminar in Contemporary Art (3)**

Selected advanced problems and directed research in relation to the contemporary art form.

**503 Graduate Problems in Design (1-3)**

Prerequisite: permission of instructor. Intensive study with emphasis on planning, development, and evaluation of individual projects in the design areas listed below. May be repeated to a maximum of eight units in each area, but no more than three units of credit may be obtained in any one area in a single semester.

**503a Advertising Design** (2 hours activity for each unit)

**503b Interior Design** (2 hours activity for each unit)

**503c Design and Composition** (2 hours activity for each unit)

**503d Display Design** (More than 3 hours laboratory for each unit)

**503e Textile Design** (2 hours activity for each unit)

**504 Graduate Problems in Ceramics (1-3)**

Prerequisite: permission of instructor. Intensive study with emphasis on planning, development and evaluation of individual projects in ceramics. May be repeated to a maximum of eight units but no more than three units of credit may be obtained in a single semester. (2 hours activity for each unit)

**505 Graduate Problems in Crafts (1-3)**

Prerequisite: permission of instructor. Intensive study with emphasis on planning, development, and evaluation of individual projects in the crafts areas listed below. May be repeated to a maximum of eight units but no more than three units of credit may be obtained in a single semester. (2 hours activity for each unit)

**505a Jewelry**

**505b General Crafts**

**505c Metalsmithing**

**505d Weaving**

**506 Graduate Problems in Sculpture (1-3)**

Prerequisite: permission of the instructor. Intensive study with emphasis on planning, development, and evaluation of individual projects in sculpture. May be repeated to a maximum of eight units but no more than three units of credit may be obtained in a single semester. (2 hours activity for each unit)

**507 Graduate Problems in Drawing and Painting (1-3)**

Prerequisite: 12 units of upper division drawing and painting. Intensive study with emphasis on planning, development, and evaluation of individual projects in the drawing and painting areas listed below. May be repeated to a maximum of eight units but no more than three units of credit may be obtained in a single semester. (3 hours laboratory for each unit)

**507a Painting**

**507b Life Drawing**

**507c Drawing**

**507d Printmaking**

## **Art Education**

### **597 Project (3-6)**

Prerequisites: Art 500, 501 and recommendation of the student's graduate committee. Art 501 may be taken concurrently with Art 597 on approval of instructor. Development and presentation of a creative project in the area of concentration beyond regularly offered coursework.

### **598 Thesis (3-6)**

Prerequisites: Art 500, 501 and recommendation of the student's graduate committee. Art 501 may be taken concurrently with Art 598 on approval of instructor. Development and presentation of a thesis in the area of concentration beyond regularly offered coursework. No more than three units may be taken in any one semester.

### **599 Independent Graduate Research (1-3)**

Open to graduate students in art with the consent of the department chairman. May be repeated for credit.

## **ART EDUCATION**

### **332 Industrial Arts for Elementary Teachers (2)**

Prerequisite: Educ 311 or consent of the instructor. Creative selection, organization and use of materials and tools in construction activities. Includes correlation experiences with the social studies, science, and other units of work. (4 hours activity)

### **370A,B Art Activity (2,2)**

Opportunities to observe, analyze, and evaluate child growth in and through creative art experiences. (4 hours activity)

### **429A,B Arts and Crafts for Teaching Exceptional Children (2,2)**

Methods of using a variety of art materials and processes with emphasis on those experiences which meet the needs of retarded or handicapped children. (4 hours activity)

### **441 Studio Problems in Secondary Art Education (3)**

Prerequisite: Senior standing in Art, or permission of instructor. Advanced individual studio problems with projects related to specific learning experiences in Art Education at the secondary school level. (6 hours activity)

### **442 Teaching Art in the Secondary School (2)**

Prerequisites: Educ 311, Educ 340, Art 380, Art Ed 441, admission to teacher education, senior standing or consent of the instructor. See pages 131-133 under Secondary Education for description of standard teaching credential program. Objectives, methods, and materials including audiovisual instruction for teaching art in secondary schools. Required, before student teaching of students presenting majors in art for the standard teaching credential. The student who has not had teaching experience must register concurrently in Educ 449.

### **749 Student Teaching in Art in the Secondary School and Seminar (6)**

See page 269 for description and prerequisites.

## **DANCE**

### **101 Introduction to Dance (2)**

Historical and aesthetic approach to dance as an art form, to provide student with basic knowledge and aesthetic values in ballet, modern dance, educational dance, theatrical dance as well as ethnic dance. Field trips. Open to all students.



**125A,B Improvisation (2,2)**

Theory and practice of improvisation in movement. The student will be taught to overcome inhibitions, to move freely and naturally and to improvise imaginatively in movement.

**135A,B Movement and Rhythm (2,2)**

This course is designed to equip the student with higher kinesthetic and kinetic ability. A course in basic movement experience for dance, drama, art, music as well as the general student.

**227A,B Space Forming in Dance (3,3)**

Prerequisite: Dance 135A,B. Theory of space and principle of space forming to train students to understand spacial movement, so that they can master movement on stage, stage design and the basic skills of choreography.

**245A,B Mime and Pantomime (2,2)**

Theory and practice of mime and pantomime for drama, dance and education (expression and gesture). Provide historical and contemporary knowledge and techniques with emphasis on individual development of creative skill in mime and pantomime. (4 hours activity)

**311A,B Elements and Forms of Dance Composition (2,2)**

Prerequisites: Dance 135A,B and 227A,B. Basic forms and elements of dance composition will be offered; Simultaneous Symmetry, Alternate Symmetry, A-Symmetry, Simple Contrast, Compound Contrast, Balance and Unbalance, 4-units Rule, 6-units Rule, Rondo, Canon. Dances in which these rules must be applied will be composed by the student.

**358 Philosophy and Methodology of Educational Dance (3)**

Prerequisites: Dance 125A,B and Dance 311A,B or consent of instructor. This course will offer: a short history of dance education; principles and objectives of modern educational dance and the methodology to meet these objectives; principle and structure of curriculum for educational dance.

**374A,B Dance Theatre and Production (3,3)**

Prerequisite: Dance 135A,B and 227A,B or consent of instructor. Cannot be taken concurrently with Theatre 478AB. Theory and practice of creative and expressive movement in relation to the theatre and dance production. (More than 6 hours production)

**441 Seminar in Ethnic Dance as Culture Phenomena (3)**

Prerequisite: Consent of instructor. A study of the mutual influence and relation between the religion, living form, habits and economical-political-geographical environment and dance form (including music and costume) of the major ethnic groups of the world.

**450 Creative Dance (3)**

Prerequisites: Dance 135A,B and 358, or consent of instructor. Study and analysis of creative dance and its relation to dance education in elementary and secondary schools. Recommended for students of dance, theatre, music and art as well as practising teachers.

**474 Special Studies in Dance Theatre Production (1-3)**

Prerequisites: Dance 374A,B or the equivalent and consent of instructor. Opportunity for intensive study in theory and practice in dance theatre and production. May be repeated to a maximum of eight units but no more than three units of credit may be obtained in a single semester. (More than 3 hours production per unit)

## Music

### **476A,B History of Dance (3,3)**

History of dance from primitive times to the present. Covers development of dance in Europe, the Orient, Asia, America (including American Indian) in its general relation to culture history.

### **484 Survey of Contemporary Dancers (3)**

Survey of great dancers and choreographers of the 20th century in Europe, Asia and the Americas; their biography, works, and philosophy.

### **486 Choreography (3)**

Prerequisites: Dance 374A,B or the equivalent and consent of instructor. Theory and practice of notating dance. Provide choreographic skill with emphasis on individual creativity.

### **585 Seminar in Educational Dance (3)**

Prerequisite: Permission of instructor. Discussion and analysis of principle, forms and methods of dance education in the world. Survey of the literature relating to dance education.

## MUSIC

### **100 Introduction to Music (3)**

A basic approach to listening to music with understanding and pleasure through a general survey of musical literature representative of various styles and performance media. Music will be related to other arts through lectures, recordings, and concerts. Closed to music majors.

### **101 Music Theory for Non-Music Majors (3)**

Basic theory and practical applications to further understanding of basic music principles and to improve music performance and listening skills. Includes sight-singing and relationship to keyboard and simple melodic instruments. Closed to music majors.

### **111A,B Music Theory (3,3)**

A year course covering diatonic harmony and musicianship. Includes scales and intervals, triads and their inversions, harmonizations, nonharmonic tones, modulation and dominant seventh chords. Practical applications, to include sight singing, dictation and keyboard harmonizations. (2 hours lecture, 2 hours activity)

### **161a, 361a Symphony Orchestra (1)**

Open by audition to college students and qualified adults in the community. Performance of standard representative symphonic works. (More than 3 hours major production)

### **161b, 361b College Choir (1)**

Open to all college students with permission of instructor. Study and performance of standard representative choral literature works. (More than 3 hours major production)

### **161c, 361c Symphonic Band (1)**

Open by audition to college students and qualified adults in the community. Performance of standard representative symphonic band literature. (More than 3 hours major production)

### **161d, 361d Opera Theatre (1)**

Study of roles and representative excerpts from standard and contemporary operas and the basic musical, dramatic and language techniques of the musical



theatre. Performance of operatic excerpts and complete operas. (More than 3 hours major production)

**161e, 361e College Singers (1)**

Membership restricted to advanced voice students or those passing voice test. Performs finest representative choral literature. (More than 3 hours major production)

**161f, 361f Symphonic Winds (1)**

Membership limited to advanced woodwind, brass and percussion students by audition. Performance of original literature for symphonic band and large wind ensemble. (More than 3 hours major production)

**162b, 362b Wind Ensemble (1)**

Open to qualified wind students by audition or consent of the instructor. Performs representative wind ensemble literature. (2 hours activity)

**162c, 362c Vocal Ensemble (1)**

Study and performance of choral literature of the Renaissance and Baroque periods. Open only to students by audition. Public performance required. (2 hours activity)

**162d, 362d Percussion Ensemble (1)**

Study and performance of music written for the Percussion Ensemble. Open to any qualified student with consent of instructor. 2 hours activity.

**163, 363 Chamber Music Ensembles (1)**

Open to all qualified wind, string, or keyboard students. Various ensembles will be formed to study, read, and to perform representative chamber literature of all periods. (2 hours activity)

**170, 270, 370, 470 Individual Instruction (Technique) (1-2)**

Note: Students must register for a minimum of one unit per semester, selected upon advisement from Mu 170-470/Mu 171-471. Individual study with approved instructor with emphasis on performance techniques. Jury examination required. Special fee.

**171, 271, 371, 471 Individual Instruction (Repertory) (1)**

Prerequisite: Jury recommendation plus two consecutive semesters of individual instruction (Technique) (170-470). Note: Students must register for a minimum of one unit per semester, selected upon advisement from Mu 170-470/Mu 171-471. Individual study with approved instructor with emphasis on repertory. Jury examination required.

**182A,B Piano Class for Music Majors (1,1)**

Fundamentals of keyboard technique for students whose major performance instrument is not piano. (1 hour lecture, 1 hour activity)

**184A,B Piano Class for Non-Majors (1,1)**

Prerequisite: Mu 101. Beginning and elementary instruction in basic piano techniques for the non-music major. (2 hours activity)

**211 Chromatic Harmony (3) (Formerly 211A)**

Prerequisite: Mu 111B or equivalent. A continuation of Mu 111A, B with emphasis on the chromatic harmonic practice of the 18th and 19th centuries. Includes secondary dominants; ninth, eleventh, and thirteenth chords; sequence, and chromatically altered chords. Practical applications to include sight singing, melodic

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and harmonic dictation, and keyboard practice. Required of all music majors. (2 hours lecture, 2 hours activity)

### **251 Survey of Musical Literature (3)**

An introductory course required of majors in the study of the literature of music in Western civilization. Open to minors and qualified students by consent of instructor. Students should be able to read music as a part of the analysis of form, design and style. (3 hours lecture, 1 hour laboratory)

### **281a-e Orchestral Instruments (2)**

Courses in this area are required of all music credential candidates. (4 hours activity)

#### **281a String Instruments (2)**

Specialization on violin, with related work on standard instruments of the string family. (4 hours activity)

#### **281b Woodwind Instruments (2)**

Specialization on clarinet, with related work on standard instruments of the woodwind family. (4 hours activity)

#### **281c Brass Instruments (2)**

Specialization on trumpet, with related work on standard instruments of the brass family. (4 hours activity)

#### **281d Percussion Instruments (2)**

Specialization on the snare drum and mallet-played instruments with related work on other standard percussion instruments. Special consideration given to typical problems encountered with percussion in the public schools. (4 hours activity)

#### **281e Survey of Orchestral Instruments (2)**

A general survey of orchestral instrument practices for elementary credential candidates. (4 hours activity)

### **282A,B Piano Class for Music Majors (1,1)**

Prerequisite: declaration of the music major and placement by the instructor. Designed to meet music major piano requirements for degree and teaching credentials. Fundamentals of keyboard technique for students whose major performance field is not piano. Not required for piano majors. (2 hours activity)

### **283A,B Voice Class (1,1)**

Prerequisite: consent of instructor. Prepares credential candidates for the functional examination. Not required for voice majors. (2 hours activity)

### **316 16th Century Counterpoint (3) (Formerly 312)**

Prerequisite: Mu 211 or consent of instructor. Sixteenth century counterpoint in two, three and four parts, covering motet, canon, double counterpoint and passacaglia. Required of all music majors.

### **318 18th Century Counterpoint (2) (Formerly 313)**

Prerequisite: Mu 316 or consent of instructor. Eighteenth century counterpoint in two, three and four parts, covering invention, canon, double and triple counterpoint and fugue.

### **320 20th Century Harmony (2) (Formerly 211B)**

Prerequisite: Mu 211. A survey of the harmonic practices of the 20th century with emphasis on written exercises in the various styles. Practical applications to



include sight singing, keyboard practice, and dictation. Required of all music majors. (2 hours lecture, 1 hour activity)

**321A,B Form and Analysis (2,2)**

Prerequisite: Mu 211 or consent of instructor. Analysis of structural elements of music such as motive, phrase, and period; binary, ternary, rondo, sonata-allegro and larger musical forms in representative musical works.

**322A,B Composition (2,2)**

Prerequisites: Mu 316, 320 and 321A or consent of instructor. **A**—Ear training, analysis of smaller forms, simple composition of two- and three-part song from styles. **B**—Analysis and writing of more complex musical forms.

**323A,B Orchestration (2,2)**

Prerequisite: Mu 312A or consent of instructor. Writing and analysis of orchestral music.

**333 Music and Child Development (3)**

Prerequisite: Mu 101 or equivalent or successful completion of proficiency test. Study of the relationship of music to child growth and development, with emphasis on the child from 5 to 12.

**341 Survey of the Symphony (3)**

Prerequisite: Mu 100 or consent of instructor. A study of the history and literature of symphonic music from the 18th through the 20th centuries, with special emphasis on the relationships between musical composition and the general artistic temper of historical periods. For non-music majors only.

**342 Survey of the Concerto (3)**

Prerequisite: Mu 100 or consent of instructor. A study of the history and literature of the concerto from the 17th century to the present. The nature of the soloist and the social display of virtuosity will be considered. For non-music majors only.

**343 Survey of Choral Music (3)**

Prerequisite: Mu 100 or consent of instructor. A study of choral music through the ages, from Gregorian Chant to contemporary forms, concentrating on choral works of the great composers of the Baroque, Classical and Romantic eras. For non-music majors only.

**350 Music in Our Society (3)**

Prerequisite: Mu 100 or consent of instructor. Designed to increase interest and an understanding of music in its relation to our general culture. Emphasis on structure, analysis and aesthetic principles through the study of masterpieces of musical literature of various historical periods.

**351A,B History and Literature of Music (3,3)**

Prerequisite: Mu 251. **A**—A study of the history and literature of music from early Greek beginnings through the Renaissance. **B**—A study of the history and literature of music covering the Baroque, Classic, Romantic period and the 20th century. (Required of all music majors)

**382 Piano Class for Music Majors (1)**

Prerequisite: Mu 282B or placement by coordinator. Continuation of class piano series for qualified upper division students. Prepares credential candidates for piano functional examination.

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### **386 Piano Accompanying (1)**

The study and application of playing accompaniments for instrumentalists, vocalists, and ensembles. Participation in rehearsals, recitals, and concerts required. (2 hours activity)

### **390A,B Diction for Singers (1,1)**

Prerequisite: Sophomore standing or consent of instructor. Study of proper singing diction; may not be considered a substitute for formal language study. Examples from standard vocal literature explained through the use of the International Phonetic Alphabet. **A**—Italian, French. **B**—German, English. Required of all voice majors.

### **391A,B Choral Conducting (2,2)**

Principles, techniques, and methods of conducting choral groups. Laboratory work with class and vocal ensembles, using standard choral repertoire. Required of all music education majors. (4 hours activity)

### **392A,B Instrumental Conducting (2,2)**

Prerequisite: Mu 391A. Principles, techniques, and methods of conducting orchestral and band groups. Laboratory experience in conducting instrumental groups, using standard instrumental literature. (4 hours activity)

### **450 History and Literature of Instrumental Music (3)**

Prerequisite: Mu 351A,B or consent of instructor. The development of instruments and instrumental forms from the Middle Ages to the present, with emphasis on the analysis of compositional techniques and stylistic development. (3 hours lecture and discussion, 1 hour listening)

### **451 History and Literature of Vocal Music (3)**

Prerequisite: Mu 351A,B or consent of instructor. A study of solo and ensemble vocal literature, including opera, from the Middle Ages to the present, with emphasis on the analysis of compositional and vocal techniques and stylistic development. (3 hours lecture and discussion, 1 hour listening)

### **453 Choral Literature and Interpretation (3)**

Prerequisites: Mu 391A,B or equivalent and 351A,B. The study of choral literature from the Medieval, Renaissance, Baroque, Classic, Romantic, and Contemporary eras analyzed in historical perspective. Appropriate performance practices will be examined.

### **454 Piano Literature and Interpretation (3)**

Prerequisite: Mu 351A,B or consent of instructor. Study and performance of representative styles and schools of piano literature, particularly with reference to solo and ensemble works. (2 hours lecture, 2 hours activity)

### **455 Instrumental Chamber Literature and Interpretation (3)**

Open to all music majors, or to non-majors by consent of instructor. Members of the class will be grouped into ensembles for demonstration purposes. Emphasis will be placed on the stylistic differences required in performing works of all periods.

### **456 Opera Literature and Interpretation (3)**

Prerequisite: Mu 351A,B or consent of instructor. Study of all periods and nationalities, including stylistic and historical connotations.

### **457A Song Literature and Interpretation (2)**

Prerequisite: Mu 390B or consent of instructor. Study and performance of German Lieder with representative examples of periods and styles.



**457B Song Literature and Interpretation (2)**

Prerequisite: Mu 390A or consent of instructor. Study and performance of Italian, French, Russian, English and American art songs, with representative examples of periods and styles.

**458 Collegium Musicum Practicum (2)**

Prerequisite: Mu 351A,B or consent of instructor. The study and performance of rare and old music, both instrumental and vocal. Techniques of musical research will be applied. Students should be competent performers.

**467 Piano Pedagogy (2)**

Prerequisite: Mu 454 or consent of instructor. Fundamentals of piano pedagogy, with reference to studio and public school teaching. Organization, materials and methods of teaching piano in beginning, intermediate, and advanced classes.

**498 Senior Recital (1)**

Prerequisite: Consent of instructor. Intensive preparation of representative works in the principal performance area.

**499 Independent Study (1-3)**

Study of a special topic in Music selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

**500 Introduction to Graduate Study in Music (2)**

Required of all graduate music majors. Study of basic bibliography, literature, and research techniques and materials useful in graduate music study.

**505 The String Quartets of Beethoven (2)**

Prerequisites: Mu 321A, 351B or consent of instructor. A comprehensive study of the early, middle and late quartets of Beethoven approached through listening to recordings and live performances. Research on the period and the circumstances under which each quartet was composed will be presented in the form of seminar projects.

**522 Contemporary Techniques of Composition (2)**

Advanced techniques of composition, as applied to the student's area of graduate specialization.

**523 Advanced Orchestration (2)**

Prerequisite: Mu 323B. Analysis and practice of traditional and contemporary orchestration techniques. Scoring of music for large ensembles such as orchestra, band, chorus and orchestra, or band and orchestra.

**551 Music of the Medieval Period (2)**

Prerequisite: Consent of instructor. A detailed study of the music forms, structures and styles from 500 to 1450. Detailed analysis of important representative works as well as the contributions of individual composers and theoretical writers.

**552 Music of the Renaissance (2)**

Prerequisite: Consent of instructor. A comprehensive study of the forms, styles, and developmental characteristics of music between 1450 and 1600. Detailed analysis of selected works by representative composers and theoretical writers.

**553 Music of the Baroque Period (2)**

Prerequisite: Mu 351A,B or consent of instructor. Musical forms, styles, and performance practices of the Baroque period. Detailed analysis of significant representative works. (2 hours lecture and discussion, 1 hour listening)

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### 554 Music of the Classic Period (2)

Prerequisite: Mu 351A,B or consent of instructor. A study of the history and literature of music from approximately 1750 to 1900. Detailed analysis of important representative works. (2 hours lecture and discussions, 1 hour listening)

### 555 Music of the Romantic Period (2)

Prerequisite: Consent of instructor. An intensive study of the structure and development of music in the 19th century. Detailed analysis of important representative works. (2 hours lecture and discussion, 1 hour listening)

### 556 20th Century Music (2)

Prerequisite: Mu 351A,B or consent of instructor. Developments in the music of western Europe and the western hemisphere since 1890. Intensive study of contemporary music and its structure.

### 557 Seminar in Music History (2)

Prerequisites: A least two from the following series: Mu 551-556, and consent of instructor. Detailed investigation and analysis of specific developments in musicology including exercises in transcriptions from old notations and historical investigations prepared by members of the seminar.

### 558 Collegium Musicum (2)

Prerequisite: Permission of instructor. Advanced studies in the performance of rare and old music. (See Mu 458 for general description). May be repeated for credit.

### 570 Individual Instruction (1-2)

Prerequisite: Jury recommendation. Individual instruction with approved instructor with emphasis on performance techniques and repertory. Minimum of 1 unit must be taken per semester. Required of all graduate students whose terminal project is the graduate recital. Special fee.

### 591 Advanced Choral Conducting and Interpretation (2)

Prerequisite: Mu 391B, conducting experience, or consent of instructor. Advanced problems in choral conducting techniques, with emphasis on laboratory work with student groups and in concert conducting. (4 hours activity)

### 592 Advanced Instrumental Conducting and Interpretation (2)

Prerequisite: Mu 392B, keyboard facility for score reading and consent of instructor. Advanced study of conducting technics through assignments with the college symphony. Interpretive problems of each period covered in lectures. (4 hours activity)

### 597 Project (3)

Systematic study and report of a significant undertaking in the area of musical composition, musical performance, or other related creative activity. A written critical evaluation of the work or activity will be required.

### 598 Thesis (3)

Individual investigations of specific problems in the area of concentration by candidates for the M.A. degree.

### 599 Independent Graduate Research (1-3)

Prerequisite: graduate standing in music and permission of instructor. Research and study projects in areas of specialization beyond regularly offered coursework. Oral and written reports required.



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### **435 Children's Literature in Music (2)**

Prerequisite: Mu 333 or consent of instructor. A survey of music literature, of books and stories about music, and of recordings appropriate for children. Correlation of music with children's literature.

### **Music Education Techniques Block: \***

#### **\* 441 Teaching Music Theory and Appreciation in the Public Schools (2)**

Prerequisite: 20 units in music; Educ 311, or consent of instructor; admission to teacher education. Required of all music majors working for the standard teaching credential, secondary specialization. Interrelation of general and specialized classes and their place in the total school program. (2 hours lecture)

#### **\* 442 Teaching Vocal Music in the Public Schools (2)**

Prerequisites: 20 units in music to include Mu 391A (for those doing student aide), Educ 340, Educ 311, admission to teacher education, senior standing or consent of the instructor. See page 131 under Secondary Education for description of standard teaching credential program. Objectives, methods, and materials including audiovisual instruction for teaching music in the secondary schools. The history and organization of the teaching of vocal and choral music in public education. Planning sequential vocal training and performance organizations for the total school program. Study of choral literature and techniques of instruction. (2 hours lecture)

#### **\* 443 Teaching Instrumental Music in the Public Schools (2)**

Prerequisite: 20 units in music, Educ 311, admission to teacher education, senior standing or consent of instructor. Required of all music majors working for the standard teaching credential, secondary specialization. The history and organization of the teaching of instrumental music in public education. Study of music literature and appropriate curricula for the development of concert bands, symphony orchestras, and chamber music ensembles for the total school program. (2 hours lecture)

### **530 Practicum of Research in Music Education (2)**

Prerequisites: Graduate standing in music; completion of Mu 500. Research techniques and procedures in music education. Students will be required to complete a creative project or research paper.

### **531 Foundations of Music Education (2)**

Prerequisites: Graduate standing in music; completion of Mu 500. Study of the philosophical and historical bases which have influenced music education in the United States. Identification of philosophic frames of leading educators, past and present. Contemporary issues and trends which affect the teaching of music in the schools. Prerequisite for all music education courses at the graduate level.

### **532 Seminar in Music Education (2)**

Studies in the trends and application of educational theory in relation to the teaching of music in the public schools.

### **544 Curriculum Planning and Construction in Music (2)**

Principles and practices of curriculum planning in music education, with special reference to the public elementary, junior and senior high school. Required of majors who intend to complete supervision credential.

\* Mu 441, 442 and 443 are scheduled as an integrated course in music education techniques. Students must take in the semester immediately preceding student teaching (ordinarily the first semester of the postgraduate year) and must allow two hours daily in their schedules to take the class and to complete fieldwork assignments. Students without teaching experience must take Educ 449 Teacher Aide Assignment (1) concurrently and must allow sufficient time in their schedules at the same hour each day so that they can serve as teacher aides in public schools.

## Theatre

### **545 Supervision and Administration of Music in the Public Schools (2)**

Open to music education majors with teaching experience. Philosophy, principles and practices of supervision of music in the public elementary and secondary schools. Emphasis on modern principles of leadership, types of services, organization, management and evaluation of programs of instruction. Required of candidates for supervisory credential.

### **749 Student Teaching in Music in the Secondary School and Seminar (6)**

Prerequisites: Mu 441, 442, 443 and Educ 449.

See page 269 for description.

## THEATRE

### **211 Introduction to Oral Interpretation (3)**

Prerequisite: Speech Communication 101, a high school speech course, or consent of instructor. A fundamentals course devoted to theory, methods, and practice in the performance of oral communication of different types of literature. (Same as Speech 211.)

### **241 Voice Production for the Actor (2)**

Prerequisite: Consent of instructor. Fundamental techniques, methods, and training to give the actor maximum use of his voice in theatre. Correction of speech faults and regional accents. Introduction to problems of stage dialects. Study of basic interpretative material. (1 hour lecture, 2 hours activity)

### **263A,B Beginning Acting (3,3)**

Laboratory practice and discussions of the form and content of the art of acting. A—Action, motivation and circumstances of behavior on stage and television. B—Problems in characterization. (6 hours activity)

### **271 Introduction to Theatre Arts (3)**

A study of the evolution of theatre, motion pictures, radio and television as composite arts. Emphasis is placed on the visual and production aspects as influenced by different cultures, traditions, and technologies. Field trips to certain significant productions.

### **272 Understanding Theatre (3)**

A nontechnical survey course for the general student leading to an appreciation and understanding of the theatre as a medium of communication and entertainment and as an art form. Field trips to certain significant productions.

### **276A,B Beginning Stagecraft (2,2)**

Requires concurrent enrollment in Stagecraft Lab. Lecture prepares the student for planning, constructing, painting and operating basic scenery for the stage and television. Students will act as crew for several productions.

### **276A,B Beginning Stagecraft Lab (1,1)**

Requires concurrent enrollment in Beginning Stagecraft lecture. Practice in the safe and efficient use of hand and power tools and standard stage equipment. Practice in reading technical drawings and building scenic items. Scenery for departmental major and class productions are used as lab projects. Student crew productions. (More than 6 hours production)

### **277 Costume Fundamentals (2)**

Requires concurrent enrollment in Costume Fundamentals Lab. Principles of costume and procedures of costuming a theatrical and television production. Lecture and discussion in basic construction techniques, organizing and executing the duties of the costume crew. Designed primarily for non-tech majors within the department and as an introductory course for tech majors.



**277 Costume Fundamentals Lab (1)**

Requires concurrent enrollment in Costume Fundamentals lecture or consent of instructor. Practical experience in executing class project assignments and in construction and organization of costumes for actual production. (More than 4 hours production)

**285A,B Theatrical Makeup (2,2)**

Theory and practice in makeup for stage and television. Emphasis on development of individual skill in techniques of character analysis, application in pigment, plastic, hair makeup, and selection and use of makeup equipment. (4 hours—activity)

**286 Design for the Theatre (3)**

Prerequisites: Art 103, 104 or Theatre 276A or 276B, or consent of instructor. Study and practice in the basic principles of designing scenery for the stage and television. Work in the designing and planning of sets for theatre productions. (Same as Art 286.)

**290 History and Aesthetics of Motion Pictures (3)**

History and development of motion pictures as an art form combining lectures, readings, discussion, and screening of films. (Same as Communications 290)

**311 Oral Interpretation (3)**

Prerequisite: Theatre 211 or Speech Communication 211 or consent of instructor. The principles and practice of reading aloud from the printed page. Analysis of selections from prose and poetry are emphasized. The development of voice control and projection of idea and motion. (Same as Speech Communication 311.)

**314A,B Reading Theatre (3,3)**

Prerequisite: Theatre 211 or Speech Communication 211. Oral reading in which the emphasis is placed on group and individual reading of dramatic literature. The first semester will emphasize modern and contemporary dramatic literature and the second semester will include selections from the Elizabethan, Renaissance and Romantic periods.

**341 Phonetics (3)**

(Same as Speech Communication 341, Linguistics 341)

**363A,B Intermediate Acting and Characterization (3,3)**

Prerequisite: Theatre 263. Continuation of Theatre 263A,B, Acting. Emphasis on extended and integrated speech and movement problems in characterization. Encouraging the student to begin development of style and ensemble acting. Laboratory scenes, extensive analysis and exploration. (6 hours activity)

**364 Seminar in Writing (3)**

Prerequisite: Evidence of student's previous interest in creative writing and consent of the instructor. Study of superior models, development of style, and group criticism and evaluation of each student's independent work, as it relates to play-writing. May be repeated for credit. (Same as English 364)

**370A,B Fundamentals of Directing (3,3)**

Prerequisite: A, prerequisite to B. Consent of instructor. The study of prehearsal problems and procedures, of the structural analysis of plays, and of composition, picturization, pantomimic dramatization, movement, and rhythm onstage and in television. Practice in directing scenes. (6 hours activity)

## Theatre

### **376A,B Advanced Stagecraft (2,2)**

Requires concurrent enrollment in Advanced Stagecraft Lab. Lecture prepares student to plan and execute complex scenery and sound for stage and television. Special analysis will be placed on new materials and techniques within the field.

### **376A,B Advanced Stagecraft Lab (1,1)**

Requires concurrent enrollment in Advanced Stagecraft lecture or consent of instructor. Special construction and rigging problems are executed as they appear in production. The scenery for departmental major and class productions are used as laboratory projects. Students are crew heads for the productions. (More than 6 hours production)

### **377A,B Stage Costuming (2,2)**

Requires concurrent enrollment in 377A,B Stage Costuming Lab.

A—History of costume for the stage; a chronological study of fashions and textiles of major historical periods, methods of costume research, and the means of interpreting historical costume for theatrical statement.

B—A study of the techniques of designing and constructing costumes of various historical periods, with emphasis on creative planning.

### **377A,B Stage Costuming Lab (1,1)**

Requires concurrent enrollment in Stage Costuming lecture or consent of instructor. Practical experience in solving advanced problems in costume design, construction, and organization through participation in major productions of the department. (4 hours production)

### **380 Introduction to Radio and Television (3)**

The history and development of the broadcasting industry and its impact and influence on our society. A study of the basic broadcasting practices, audiences, production and programming. (Same as Communications 380)

### **381 Radio and Television Announcing (3)**

Prerequisite: Theatre 211 or consent of instructor. Theory and practice of control room operation. Lectures and practice in microphone and camera techniques, commercial announcements; interviewing, sportscasting, narration, foreign pronunciations, and continuity. (6 hours activity)

### **382 Television Techniques (3)**

Prerequisite: Theatre 380. Survey of the development and current trends in television techniques, programming, and production.

### **383 Radio and Television Writing (3)**

Study of the principles and practices and experience in the writing of scripts and other forms of continuity for television.

### **386 Stage Lighting (3)**

Prerequisites: Theatre 276A,B or equivalent. Theory and practice in stage lighting and television presentations. Emphasis is given to design and the technology for its illumination. (More than 6 hours activity)

### **402 Dramatic Activities for Children (3)**

Theory and practice in the use of creative dramatics, storytelling, puppetry, assembly programs, role-playing, and other aspects of dramatics as tools for the teacher, group worker, recreation major, and others who work with children.

### **403 Children's Theatre (3)**

Prerequisites: Theatre 263A or B; 276A and 370AB or equivalent; or consent of the instructor. Theories and principles of production in the formal theatre arts for children. Analysis and evaluation of appropriate theatrical forms.



**411A Oral Interpretation of Prose Literature (3)**

Prerequisites: Theatre 211 or 311 or consent of instructor. The oral interpretation of prose literature. Emphasis will be upon the application of relevant critical techniques to close study of various types of prose literature and to the development of oral interpretation skills appropriate to these types.

**411B Oral Interpretation of Poetry (3)**

Prerequisites: Consent of instructor or Theatre 211 or 311. The oral interpretation of poetic literature. Emphasis will be upon the application of critical techniques to close study of various types of poetry and to the development of appropriate oral interpretation skills.

**411C Oral Interpretation of Drama (3)**

Prerequisites: Theatre 211 or 311 or consent of instructor. The oral interpretation of drama. Emphasis will be upon the application or relevant critical techniques to the drama and upon the development of oral interpretation techniques appropriate to drama.

**450 Theatre Management (3)**

Prerequisites: Consent of instructor. Discussion and practice of the basic elements of public relations as applied to theatre with a detailed analysis of various advertising mediums and experimentation in their use. A study of the various financial aspects of academic, community, and professional theatre operations including practical experience in front-of-the-house management and box office operation through the department's public presentations. (6 hours activity)

**463A,B Advanced Acting (3,3)**

Prerequisite: Theatre 363A,B. A study of historical theories and techniques of styles of acting as an art form. The first semester will include Greek through Renaissance periods and the second semester will include the Neoclassic periods to contemporary styles. (6 hours activity)

**468A,B Experimental Theatre (3,3)**

Prerequisites: Consent of instructor. Cannot be taken concurrently with Theatre 479AB. An activity course in which dramatic principles are applied through production of full length and one-act plays using various styles of acting and staging. (More than 3 hours production per unit)

**470A,B Directing (3,3)**

Prerequisites: Theatre 370A,B or consent of instructor. Requires concurrent enrollment in Theatre 470A, B. Lab. Readings in theory, analysis of scripts, and problems in directing plays for their oral and visual value as theatre.

**470A,B Directing Lab (1,1)**

Prerequisites: Theatre 370A, B or the consent of instructor. Requires concurrent enrollment in Theatre 470A, B directing lecture. A—Each student directs public performances of a one-act play. B—Each student directs public performances of two-act plays, or equivalent. (3 hours laboratory)

**471 Kabuki Theatre (3)**

Prerequisite: Upper division standing or consent of instructor. A study of the history and development of the Kabuki Theatre, emphasizing the three types of Kabuki plays (Jidaimano, Sewamono, Shosagoto) and theories of production of Kabuki drama.

**472 American Theatre (3)**

Prerequisites: Theatre 271, 272, or the equivalent and junior standing. The development of the art of theatre in the United States from colonial times to the present day; its place and potentialities as a force in a democratic society.

## Theatre

### **473A,B World Drama (3,3)**

Reading, discussion and interpretation of great plays of the world in translation, emphasizing them as literature for performance. First semester from ancient Greece through mid-19th century; second semester, from Ibsen to the present. (Same as Comparative Literature 473A,B)

### **475A,B History of the Theatre (3,3)**

Examination of the evolution of all major aspects of world theatre. *A*—From ancient Greece to the end of the 18th century; *B*—19th and 20th centuries.

### **477 Senior Seminar in Contemporary Critical Techniques (3)**

Prerequisite: Consent of instructor. Introduction to major contemporary modes of criticism and their application to selected plays and area productions.

### **478A,B Rehearsal and Performance (1-3)**

Acting in stage productions, major technical assignments in stage productions, or participation in television or children's theatre productions. Any upper division or graduate student who is interested should enroll. This class cannot be taken concurrently with Theatre 468A,B. (More than 3 hours production per unit)

### **480 Radio and Television Production and Direction (3)**

Prerequisites: Theatre 370, 380, or consent of instructor. Theory and practice in the production of radio and television programs and announcements: the planning, organizing, directing, rehearsing, performing, recording and editing of television programs and announcements. (1 hour lecture, 4 hours activity)

### **486 Advanced Theatrical Lighting (3)**

Prerequisite: Theatre 386 or consent of instructor. The design and technology of lighting. Student will be prepared to design for the stage, dance, pageant, display, film and television. Student will do at least one major lighting project as part of the course. (6 hours activity) (Same as Art 486)

### **488A,B Advanced Scene Design (3,3)**

Prerequisites: Theatre 286, or equivalent beginning work in design. Lecture in scene design with emphasis on style, ornamentation and illusion leading to practical problems in designing for the stage and television. (Same as Art 488A,B)

### **491 Senior Seminar: Greek Tragedy (3)**

(Same as Comparative Literature 491)

### **499 Independent Study (1-3)**

Open to advanced students in theatre with the consent of the department chairman. May be repeated for credit.

### **500 Introduction to Graduate Study in Theatre (3)**

Introduction to methodological problems in graduate research. Location of source materials, including library and original data; research and project design and execution; interpretation of researches.

### **501 Graduate Seminar: Advanced Theatre Theory and Appreciation (3)**

Prerequisites: Theatre 500. Directed research with emphasis on the relationship between historical backgrounds and developments in the theatre and the student's area of concentration.

### **511 Graduate Seminar in Interpretation (3)**

Prerequisites: Consent of instructor. The historical and philosophical backgrounds in the development of interpretation and its relationship to contemporary theory and practice. (Same as Speech Communication 511)



**571 Graduate Seminar: Major Writers (3)**

Directed research and writing, group discussion, and lectures covering Shakespeare. The student should consult his adviser and the schedule of classes for the section appropriate to his program. (Same as English 571)

**572 Production Planning in Theatre Arts (3)**

History and philosophy of production problems in theatre arts. Organization of the college theatre as it relates to the total college program. Planning of the production within the limitations of budgets and physical facilities.

**573 Graduate Seminar, Literary Genres (3,3)**

Prerequisites: Permission of instructor. As appropriate to the specialized research and publications of the instructor, this course will offer directed research and writing, group discussion and lectures covering such major literary types as: tragedy, comedy and historical drama. With consent of the adviser, this course may be repeated with different content for additional credit. (Same as English 572)

**597 Project (3)**

Development and presentation of a creative project in the area of concentration beyond regularly offered coursework. May be repeated to a maximum of six units.

**598 Thesis (3)**

Development and presentation of a thesis in the area of concentration beyond regularly offered coursework.

**599 Independent Graduate Research (1-3)**

Open to graduate students in theatre with the consent of the department chairman. May be repeated for credit.

**THEATRE EDUCATION**

**442 Teaching Theatre in the Secondary School (2)**

Prerequisites: Education 340, Education 311, admission to teacher education, senior standing or consent of the instructor. The student who has not had teaching experience must register concurrently in Education 449. See page 131 under Secondary Education for description of Standard Teaching Credential program. Objectives, methods, and materials including audiovisual instruction for teaching in secondary schools.

**484 Educational Television Production (3)**

Theory and practice in the activities, methods of lesson preparation, and presentation of educational television productions.

**749 Student Teaching in Theatre in the Secondary School and Seminar (6)**

See pages 269-270 for description and prerequisites.

# SCHOOL OF BUSINESS ADMINISTRATION AND ECONOMICS

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## ACCOUNTING

### **201A,B Elementary Accounting (3,3)**

Prerequisite: Accounting 201A must be taken before taking Accounting 201B. Accounting concepts and techniques essential to the administration of a business enterprise; analyzing and recording financial transactions; preparation of financial statements; analysis and interpretation of financial statements; introduction to manufacturing accounts and reports.

### **300 Accounting Fundamentals (3) (Open only to graduate students)**

The basic fundamentals of accounting as they apply to the accumulation, organization, and interpretation of financial and quantitative data relevant to the activities of the corporate business enterprise.

### **301A,B Intermediate Accounting (3,3)**

Prerequisite: Accounting 201B. The quantification, recording, and presentation of balance sheet and income statement items with particular emphasis on the corporate type of organization; statement of application of funds; cash flow statement; basic concepts of accounting theory; interpretation of financial statements.

### **302 Cost Accounting (3)**

Prerequisite: Accounting 201B. The development of accounting information for management of manufacturing enterprises; cost records; cost behavior and allocation; standard costs; and an introduction to cost control.

### **303 Governmental Accounting (3)**

Prerequisite: one course in accounting. A consideration of the accounts and reports of nonprofit institutions, municipalities, state and federal governments; organization, procedures, budgets.

### **304 Managerial Accounting (3)**

Prerequisite: Accounting 201B. This course is intended for students whose area of concentration is not accounting. Analysis, interpretation, and application of accounting information for managerial decision making; budgets and budgetary control; special-purpose reports; differential cost analyses.

### **307 Distribution Costs (3)**

Prerequisites: Accounting 201B and Marketing 351. The development of quantitative measures for marketing activity; costs of distributing through different channels of distribution, advertising vs. personal selling, and movement activities; development of sales budgets, standard costs, and the analysis of actual performance in the light of budgets and standards. (Same as Marketing 457)

### **308 Federal Income Tax (3)**

Prerequisite: Accounting 201B. Basic consideration of the history, theory, and accounting aspects of federal income taxation.

### **401 Advanced Accounting (3)**

Prerequisite: Accounting 301B. A study of partnerships, statements for special purposes, receiverships, consolidated financial statements, branch accounting and foreign exchange.



**402 Auditing (3)**

Prerequisites: Accounting 301B and 302. Nature of an audit, auditing standards and procedures, audit reports; professional ethics and responsibilities of the independent public accountant; introduction to internal auditing.

**406 Cost Control (3)**

Prerequisite: Accounting 302. A study of current and persistent problems in cost accounting; theories of cost allocation and absorption; flexible budgeting; responsibility accounting; and distribution cost control.

**407 Integrated Data Processing Systems (3)**

Prerequisites: Accounting 201B or 300 and QM 264 or 265. Integrated systems for the collection, processing, and transmission of information; aspects of the information service function; feasibility studies; case studies of operating systems.

**408 Problems in Taxation (3)**

Prerequisite: Accounting 308. Research in problems of taxation with emphasis on income taxes as they relate to corporations, partnerships and fiduciaries.

**409 C.P.A. Problems and Theory (3)**

Prerequisite: Accounting 401, or consent of the instructor. Selected problems and questions as found in the uniform C.P.A. examination; preparation, analysis and revision of financial statements; assets, liabilities and ownership equities; income determination; cost accounting; governmental and institutional accounting; accounting theory.

**499 Independent Study (3)**

Prerequisites: senior standing and approval by the department chairman. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

**500 Seminar in Industrial Accounting (3)**

Prerequisites: Accounting 201B, or 300, graduate standing and consent of the instructor. Accounting information for industrial management; elements of manufacturing cost; cost systems; standard costs; cost reports; distribution cost analysis.

**501 Seminar in Administrative Accounting (3)**

Prerequisites: Accounting 302, or 304, or 500, graduate standing and consent of the instructor. Accounting, financial, and other quantitative data for managerial decision-making; long-term and short-term profit planning; budgetary control; cost analysis and special reports; financial analysis and planning; the financial and taxation aspects of business decisions.

**502 Seminar in Accounting Theory (3)**

Prerequisites: Accounting 301B, graduate standing and consent of the instructor. The concepts and theory of accounting; the effects of professional, governmental, business, and social forces on the evolution of accounting theory.

**503 Seminar in Contemporary Financial Accounting Problems (3)**

Prerequisite: Accounting 502. A critical examination of the current problems and areas of controversy in financial accounting.

**504 Seminar in Contemporary Managerial Accounting Problems (3)**

Prerequisites: Accounting 500 or 302, graduate standing and consent of the instructor. A critical examination of the current problems and areas of controversy in managerial accounting.

## **Business Administration**

### **505 Seminar in Auditing (3)**

Prerequisites: Accounting 402 and graduate standing. Auditing theory and practices; professional ethics; auditing standards; SEC and stock exchange regulations; auditor's legal liability; statement trends and techniques.

### **597 Project (3)**

Open to qualified graduate students. Directed independent inquiry.

### **598 Thesis (3-6)**

Open to qualified graduate students. Directed independent inquiry. Student will select and have approved a thesis topic, show evidence of original research, and must present himself for a defense of the thesis before a faculty committee.

### **599 Independent Graduate Research (3)**

Prerequisites: graduate standing, the consent of the instructor, and approval by the department chairman. Open to qualified graduate students desiring to pursue independent inquiry. May be repeated for credit.

## **BUSINESS ADMINISTRATION**

### **497 Business and Economic Research (3)**

Prerequisite: Bus. Ad. core, senior standing, and consent of instructor. For advanced students who wish to investigate business and economic problems in specialized areas. Application of research methods: selection and identification of a problem, determining a method of approach, collection and analysis of relevant data, eliciting conclusions and solutions.

### **595 Modern Capitalism (3)**

Prerequisite: Graduate standing and consent of instructor. The changing role of capitalism and its control in the United States, European countries and Japan. The trends as to Government policy and action, relative to private ownership and co-ordinated economic planning.

## **ECONOMICS**

### **100A Principles of Economics (3)**

The first half of a two-semester sequence. An introduction to the principles and analysis of economic policy. Emphasizes economic stability and growth and the role of public policy.

### **100B Principles of Economics (3)**

The second half of a two-semester sequence. Continuation of an introduction to the principles of economic analysis and policy including the central problem of scarcity. Emphasizes resource allocation and income distribution, international economics, comparative economic systems, and the role of public policy.

### **200 Principles of Economics (5)**

Prerequisite: open only to junior transfers. (Duplicates 100A,B). An introduction to the principles of economic analysis and policy including the central problem of scarcity, basic economic institutions of the United States, resource allocation and income distribution, economic stability and growth, and the role of public policy.

### **201 The American Economy (3)**

A survey of the basic economic concepts and processes of a private enterprise economy. Included is a consideration of such topics as resource allocation, income distribution, problems of economic stability and growth and the appropriate role of government in a private enterprise society. Not open to students majoring in business administration and economics.



**300 Basic Economics (3) (Open only to graduate students)**

A concentrated study of the principles of economic analysis and policy and the basic economic institutions of the United States.

**310 Intermediate Microeconomic Analysis (3)**

Prerequisite: Economics 100A,B or 200 or equivalent. An analysis and evaluation of (1) rational decisionmaking behavior of consumers and firms and (2) price and output determination in markets; with special emphasis placed on the use of cases and problems to illustrate the application of the analysis to the contemporary scene.

**320 Intermediate Macroeconomic Analysis (3)**

Prerequisite: Economics 100A,B or 200 or equivalent. The explanation and evaluation of the determinants of the level and fluctuations of such economic aggregates as national income and employment, with stress placed on the use of problems involving the application of analytical tools to modern macroeconomic issues.

**330 Comparative Economic Systems (3)**

Prerequisite: Economics 100A,B, or 200 or equivalent. An analytical comparison of unplanned and planned systems of economic organization as to their theoretical foundations, existing economic institutions, and achievements and failures; capitalism, socialism, communism, and fascism will be examined as exemplified by the United States, England, Russia and prewar Germany.

**331 The Soviet Economy (3)**

Prerequisite: Economics 100A,B, or 200 or equivalent. An analytical evaluation of Soviet economic development including the structure and performance of the Soviet economy and problems of planning and control.

**332 Economic Problems of Asia (3)**

Prerequisite: Economics 100A,B, or 200 or equivalent. Analysis of the natural resources, population, agricultural, industrial, transportation, communications, monetary, banking, etc. problems of Asia, i.e. China, Japan, etc. and the Asian subcontinent. The relations of non-economic problems to the economic is considered in detail.

**333 Economic Development: Analysis and Case Studies (3)**

Prerequisite: Economics 100A,B, or 200 or equivalent. An examination of the processes of economic growth with special references to developing areas. Considers capital formation, resource allocation, relation to the world economy, economic planning and institutional factors, with appropriate case studies.

**334 Economics of Poverty, Race and Discrimination (3)**

Prerequisite: Economics 100A,B or 200 or equivalent; Economics 201 will be accepted as the prerequisite with permission of the instructor. An economic analysis of the problems and policies dealing with poverty, race and discrimination. A field investigation or project is required of each student.

**350 American Economic History (3) (Formerly 323)**

Prerequisite: Economics 100A,B, or 200 or equivalent. The development of American economic institutions with special emphasis on economic problems, economic growth, and economic welfare.

**351 European Economic History (3)**

Prerequisite: Economics 100A,B, or 200 or equivalent. The evolution of European economic institutions and their relation to the development of industry, commerce, transportation, and finance in the principal European countries.

## **Economics**

### **360 Economics of Location (3)**

Prerequisite: Economics 100A,B, or 200 or equivalent. The theory and principles underlying the location of economic activity.

### **361 Urban Economics (3)**

Prerequisite: Economics 100A,B, or 200 or equivalent. Theory and analysis of the urban economy, urban economic problems and policy.

### **365 Public Finance (3)**

Prerequisite: Economics 100A,B, or 200 or equivalent. A study of government finance at the federal, state, and local levels with particular reference to administrative problems of public finance, the ethical aspects of taxation, and the impact of taxation and spending on resource allocation and income distribution.

### **370 Economics of Research, Development and Technological Change (3)**

Prerequisite: Economics 100A,B, or 200 or equivalent. Examination of the importance of R & D and technological change in the economy; concepts, issues, and major figures in the study of economics of technology; analytical techniques for the assessment of technological change; and evaluation of the impacts of technological change.

### **410 Government and Business (3)**

Prerequisite: Economics 310. An economic study of business organization, conduct and performance followed by an analysis of the rationale and impact of public policy on various segments of business and business activities, including the regulated industries, sick industries, and antitrust policy.

### **411 International Trade (3)**

Prerequisite: Economics 310. An examination of the theory or international trade and the means and significance of balance of payments adjustments, with an analysis of past and present developments in international commercial and monetary policy. (Same as Marketing 421)

### **412 Labor Economics (3)**

Prerequisite: Economics 310. An analysis of the basic economic and institutional influences operating in labor markets. Considers relevant aspects of resource allocation, income distribution, economic stability, and growth.

### **420 Money and Banking (3)**

Prerequisite: Economics 320. A study of the structure and operation of commercial banks and financial institutions including a consideration of the impact of money and capital market developments on economic activity. (Same as Finance 324.)

### **421 Monetary and Fiscal Policy (3)**

Prerequisite: Economics 320. A study of the techniques of monetary and fiscal policy and an appraisal of their relative roles in promoting economic stability and growth.

### **440 Introduction to Econometrics (3)**

Prerequisites: Economics 310, 320 and QM 362. Development of advanced statistical methods and their application in economic research. Advanced concepts in model building; development of different types of economic models. The use and effect of economic models in public policy.

### **441 Introduction to Mathematical Economics (3)**

Prerequisites: Economics 310, 320 and QM 362. Selected topics in economic theory, drawn from microeconomics and macroeconomics. Content varying from



year to year but with emphasis on constrained optimization problems and rational decision making.

**450 History of Economics Thought (3)**

Prerequisites: Economics 310 and 320. A study of the development of economic thought as reflected in the evolution of major schools of thought and of leading individual economists as they influenced economic thought and policy.

**499 Independent Study (3)**

Prerequisites: Economics major or concentration, senior standing and approval by the department chairman. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

**502 Advanced Microeconomic Analysis (3)**

Prerequisites: Economics 200 or 100A,B, and 310. An advanced theoretical formulation of the principles of the determination of prices and outputs of goods and productive services in a market system. Topics include: consumer choice, demand, production, cost, the equilibrium of the firm and the market, and distribution.

**503 Advanced Macroeconomic Analysis (3)**

Prerequisites: Economics 200 or 100A,B, and 320. Advanced theory of the determination of the level and fluctuations of real and money income, and the forces underlying economic growth.

**505 Methodology in Economic Research Seminar (3)**

Prerequisites: Economics 502 or 503 and concurrent enrollment in Economics 503 or 502. A systematic examination of the philosophy and methodology of economic analysis and research. Topics include theory construction, verification and measurement, and the problems associated with policy formulation.

**506 Seminar in Micro- and Macroeconomic Applications (3)**

Prerequisites: Economics 502, 503, and 505. Complements the study of methodology in economic research. Students select approved topics and via independent investigation and seminar presentation and critique develop their analytical and research abilities, culminating with an acceptable paper.

**510 Competition, Monopoly and Public Policy (3)**

Prerequisite: Economics 300 or equivalent. Seminar devoted to an examination of the economic implications of various forms of market structure and business conduct and considers the application of public policy to various segments of business and business activities, including antitrust policy and regulation of business. (Not open to Economics M.A. candidates.)

**511 Economic Problems and Public Policy (3)**

Prerequisite: Economics 300 or equivalent. Seminar devoted to an examination of the nature and implication of the major economic problems facing the economy and an evaluation of current and alternative policies for their solution. Problems considered will include price level stabilization, balance of payments equilibrium, economic growth, and cyclical and technological unemployment. (Not open to Economics M.A. candidates.)

**512 Comparative Economics Seminar (3)**

Prerequisite: Economics 300 or equivalent. A comparative study of various analytical and prescriptive approaches to economic problems of scarcity, development, fiscal and monetary policy, planning and poverty. (Not open to Economics M.A. candidates.)

## Finance

### **596 Selected Topics in Economic Analysis and Policy (3)**

Prerequisites: Economics 200 or 100A,B, 310 and 320. Seminar: Selected topics in economic analysis and policy will be covered in depth, with special emphasis on contemporary research and materials. May be repeated for credit.

### **597 Projects (3)**

Open to qualified graduate students. Directed independent inquiry.

### **598 Thesis (3-6)**

Open to qualified graduate students. Directed independent inquiry. Student will select and have approved a thesis topic, show evidence of original research, and must present himself for a defense of the thesis before a faculty committee.

### **599 Independent Graduate Research (3)**

Prerequisites: graduate standing, the consent of the instructor, and approval by the department chairman. Open to qualified graduate students desiring to pursue independent inquiry. May be repeated for credit.

## FINANCE

### **324 Money and Banking (3)**

(Same as Economics 420)

### **330 Business Finance (3)**

Prerequisite: Accounting 201B or 200. Financing business enterprises; financial planning and control; analysis of alternative sources and uses of combinations of short-, intermediate- and long-term debt and equity. Cost of capital. Study of capital investment decisions; capital budget analysis and valuation; working capital and capital structure management. Problems and case preparations.

### **331 Financial Analysis (3)**

Prerequisite: Finance 330. Development of techniques for internal financial control and their application to business situations. Capital costs and optimal capital investment decisions. Budgets and forecasts for projection of long-term profitable operations. Analysis of current financial models. Group problems and case studies.

### **333 Personal Finance (3)**

Prerequisite: None. (This course may not be taken for credit by students electing the finance area of concentration.) Financial problems of the household in allocating resources and planning expenditures. Consideration of housing, insurance, installment buying, medical care, savings and investments.

### **334 Principles of Insurance (3)**

Principles of life, casualty and liability insurance, individual and group insurance programs; methods of establishing risks and rates.

### **335 Security Investments (3)**

Prerequisite: Finance 330. Principles underlying the selection and management of portfolios, analysis of different types of securities; the role of mutual funds, investment trusts and other investment institutions. Group problems and case studies.

### **336 Principles and Practices of Real Estate (3)**

Survey of urban real estate principles and practices; structure and growth of cities; economic implication to real estate markets. Trends and factors affecting real property values, real estate financing and real estate law. Integrative cases and projects. Study of current urban models used in urban development. Group problems and case studies.



**337 Real Estate Finance (3)**

Prerequisite: Finance 336 or consent of the instructor. Sources and uses of capital in financing real estate transactions. Financial institutions and their effect on credit. Money and capital market conditions and their effect on credit availability and cost. Instruments of real estate finance. Real estate as an investment medium. Group problems and case studies.

**338 Real Estate Valuation (3)**

Prerequisite: Finance 336 or consent of instructor. Theory of real property value, historical development; methods used in urban and rural property appraisals; special purpose appraisals. Group problems and field work required.

**401 Real Estate Research (2) (Formerly 339)**

Prerequisites: Finance 336 and 337 or 338 and concurrent enrollment for 1 unit of Finance 499. Group problems and individual projects in the use of applicable research techniques in solving problems related to real property.

**425 Commercial Bank and Financial Institution Management (3)**

Prerequisites: Finance 330 and 331. Application of analytical techniques to the solution of financial institution problems. Major financial intermediaries and the broad range of decision-making problems they face: function, management operations, loan analysis, investment policies, and liquidity problems. Regulation and its effect on management operations. Cases, group problems and projects.

**431 Capital and Money Markets (3)**

Role of capital and money markets in the American economy; markets for new corporate and government issues; secondary markets; interrelation of financial institutions; factors influencing yields and security prices.

**433 Problems in Business Finance (3)**

Prerequisite: Finance 331. Comprehensive case studies including group problems of estimating funds requirements, long-term financial planning, controlling and evaluating cash flows, and financing acquisitions and mergers. (2 hours lecture, 2 hours activity)

**435 Security Analysis (3)**

Prerequisites: Finance 335, QM 361 or consent of instructor. An advanced securities analysis course (with computer applications) developing various models of security valuation. A simulated portfolio management game is played during the latter part of the course.

**439 Social Insurance (3)**

Prerequisite: Finance 330. Financial problems and policies in old age pensions, health insurance, unemployment insurance, workman's compensation, and private pension plans.

**499 Independent Study (1-3)**

Prerequisites: senior standing and approval by the department chairman. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

**532 Seminar in Corporate Financial Management (3)**

Prerequisites: Finance 433 or consent of instructor. Emphasis in this course is on the analysis of the financial decision-making process. Areas of emphasis include: management and control of current assets; evaluation of cash flows; financial forecasting and fund requirements; capital budgeting; cost of capital; dividend policies; and merger, acquisition, and valuation problems. Current financial theory and models. Case studies and seminar presentations.

## **Management**

### **533 Seminar in Financial Administration (3)**

Prerequisite: Finance 532. Optimal financing and asset administration; advanced techniques of capital budgeting; application of analytical methods to the administration of the finance function of the business firm.

### **534 Seminar in Financial Markets (3)**

Prerequisites: Finance 431 or consent of the instructor. Structure and operation of major financial institutions; portfolio composition, price-cost problems, and market behavior; analysis of financial intermediation and interrelation of financial institutions and markets.

### **535 Seminar in Investment Management (3)**

Prerequisite: Finance 435 or consent of instructor. Problems of investment and portfolio management; concepts of risk evaluation and investment criteria; analysis of interest rate movements; investment timing; valuation of securities; regulation of securities markets.

### **536 Seminar in Risk Management (3)**

Prerequisites: Finance 334 and graduate standing. Techniques of risk management, structure of risk management, insurance planning and control, risk management programs.

### **537 Seminar in Real Estate Investment (3)**

Prerequisites: Finance 330, 336 or equivalent and graduate standing. Problems of real estate investment; concepts of evaluation and investment criteria; analysis of real property values; real estate development and financing.

### **597 Project (3)**

Open to qualified graduate students. Directed independent inquiry.

### **598 Thesis (3-6)**

Open to qualified graduate students. Directed independent inquiry. Student will select and have approved a thesis topic, show evidence of original research, and must present himself for a defense of the thesis before a faculty committee.

### **599 Independent Graduate Research (1-3)**

Prerequisites: graduate standing, consent of the instructor and approval by the department chairman. Open to qualified graduate students desiring to pursue independent inquiry. May be repeated for credit.

## **MANAGEMENT**

### **341 Principles of Management (3)**

Prerequisite: Economics 200 or 100A,B, or consent of the instructor. Fundamentals of management universal to all organizations; covers such studies as planning, organizing, activating and controlling.

### **342 Production Operations Management (3)**

Prerequisites: Management 341 and QM 265. Fundamentals of the production functions in business and industry. Dynamic analysis at the production level of; systems, organizations, analytical models and methods, product and process development, and management information systems. Case studies stress realism in management problem solving approaches.

### **343 Personnel Management (3)**

Prerequisite: Management 341 or consent of the instructor. A study of the personnel function, its activities, and its problems. Emphasis upon management's responsibilities for selection, development, and effective utilization of personnel.



**346 Business Law (3)**

The philosophy, institutions and role of the law in business and society, with emphasis upon the functions of courts and attorneys, and upon case studies in the areas of contracts and corporation law.

**347 Business Law (3)**

Prerequisite: Management 346. The philosophy, institutions and role of the law in commercial transactions, with emphasis upon the uniform commercial code and case studies in the areas of sales, security devices, personal property, bailment and negotiable instruments.

**348 Business Law (3)**

Prerequisite: Management 346. The philosophy, institutions and role of the law in business relationships, with emphasis upon case studies in the areas of agency, partnership, real property, mortgages, trusts, wills, community property, insurance, suretyship and bankruptcy.

**349 Real Estate Law (3)**

Prerequisites: Management 346 or equivalent area; Finance 336. Law of real property; types of ownership; titles and estates; transfers of interests; encumbrances; easements; fixtures; land sale contracts; recording; zoning; leases; responsibilities of real estate brokers.

**441 Labor-Management Relations (3)**

Prerequisite: Management 341 or consent of the instructor. The course provides an understanding of the impact of labor-management relations upon labor, management, and the public. Proper grievance procedure, collective bargaining, and the settlement of disputes are among the subjects that are examined.

**442 Labor Law (3)**

Prerequisites: Management 341, 346 or consent of the instructor. The study of labor law and its effects upon American society. Federal and state legislation, and actions of regulatory bodies are explored by means of case studies.

**443 Behavioral Science for Management (3)**

Prerequisites: Management 341 or consent of the instructor. A seminar designed to provide the student an opportunity to study cases and current literature in the human problems of work situations. Special emphasis is placed upon concepts in motivation, leadership, individual differences, organizational health, and adapting to change. Group problems offer a practical approach to these areas.

**444 Management of Systems (3)**

Prerequisites: Management 342 and QM 361. The technology for managing programs, enterprises, and organizations as cybernetic systems. The course investigates the design and control of systems appropriate for product, project and program levels of analysis. (2 hours lecture, 2 hours activity)

**445 Production and Management Performance Control (3)**

Prerequisite: Management 342 and QM 361. Quantitative approaches toward assuring performance control (integrating cost, schedule and technical progress) in production operations and other enterprise activities. The methods of collecting, evaluating and using control information in real time. The integration of cost and schedule into a single management control tool. Synthesis of effective control systems through individual and group projects.

**446 Managerial Economics (3)**

Prerequisites: QM 361, Economics 310 and Management 341, or consent of the instructor. A study of the relationship of management tools to applied economics

## **Management**

and statistics in the decisionmaking process: the use of cases and group problems to study the true economic meaning of cost, demand, supply, price, product and competition.

### **447 Management Decision Games (3)**

Prerequisites: The business administration core or consent of the instructor. A simulation of an oligopolistic industry to provide the student with an opportunity, through group problems, to use statistics and other analytical tools to make managerial decisions in the functional areas of management. (2 hours lecture; 2 hours activity)

### **449 Seminar in Business Policies (3)**

Prerequisites: Accounting 201A,B, Finance 330, Management 341, Marketing 351, and senior standing. The seminar is limited to seniors and graduate students. Through an analysis of integrative cases and problems the student is encouraged to use his business and liberal arts training. Individual and team efforts resolve decision-making policies and actions.

### **499 Independent Study (3)**

Prerequisites: management concentration, senior standing, and approval by the department chairman. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

### **541 Seminar in Project Operations Problem Solving (3)**

Prerequisites: Graduate standing and consent of instructor. A seminar designed to focus attention on application of system analysis and other dynamic techniques to current operations problems. Special projects are used to demonstrate application of concepts.

### **542 Seminar in Labor Relations (3)**

Prerequisites: graduate standing and consent of the instructor. Theories and philosophies of union-management relations in modern industrial society with attention to trends in nonindustrial organizations. Issues in collective bargaining contract administration, labor law, and government regulation. Discussion and analysis of literature.

### **543 Seminar in Personnel Administration (3)**

Prerequisites: graduate standing and the consent of the instructor. The seminar provides the graduate student with an opportunity to study cases, problems, and significant literature in the field in order to develop a comprehensive understanding of personnel administration and human relations.

### **544 Seminar in Organizational Behavior and Administration (3)**

Prerequisites: graduate standing and consent of the instructor. The analysis of human behavior in organization, studies in organizational theories, and administrative action.

### **545 Seminar in Research and Development Project Management (3)**

Prerequisite: Consent of instructor. Examination of the management of technical activities within the firm: selection, planning and control of research and development projects. Survey of methods of assessing the economic worth of project proposals as related to the firm's objectives; planning and scheduling of technical resources; authority relationships and structures of pure project and matrix organizations; specification and integration of cost, schedule and technical performance measures; control room technology. Group problem solving and current literature analyses provide focus on contemporary developments in the field.



**548 Seminar in International Management (3)**

Prerequisites: graduate standing and consent of the instructor. Problems in managerial qualifications and training, political structure within and without the operations, foreign receptivity to United States business, organizing and controlling the international firm. Management in selected countries is examined.

**549 Seminar in Policy Planning and Administration (3)**

Prerequisites: graduate standing and consent of the instructor. Planning, implementing, and controlling policy strategies to achieve objectives are considered. The executive's role in the overall operations of the enterprise and its resources are examined, and supported by cases, literature and training techniques in practice.

**597 Project (3)**

Open to qualified graduate students. Directed independent inquiry.

**598 Thesis (3-6)**

Open to qualified graduate students. Directed independent inquiry. Student will select and have approved a thesis topic, show evidence of original research, and must present himself for a defense of the thesis before a faculty committee.

**599 Independent Graduate Research (3)**

Prerequisites: graduate standing, consent of instructor and approval by department chairman. Open to qualified graduate students desiring to pursue independent inquiry. May be repeated for credit.

## MARKETING

**351 Principles of Marketing (3)**

Prerequisite: Economics 200. Marketing organization and methods for the individual business with serious consideration of the social and economic aspects of the distribution task. Topics include the consumer, his place and his problems in the marketing area; marketing functions, institutions, and policies; legal and political environment for marketing activity; and an evaluation of the present marketing system.

**352 Principles of Retailing (3)**

Prerequisite: Marketing 351. Retail problems of location; organization; buying; selling media and methods; pricing; and merchandising. Emphasis will be placed upon operating procedures and control, planning, budgeting, and costs.

**353 Marketing Administration (3)**

Prerequisite: Marketing 351. Major problems facing the marketing executive, including product planning, pricing, market and analysis, sales potentials, marketing organization, and administration of the sales force.

**354 Principles of Advertising (3)**

Prerequisite: Marketing 351. The management of the advertising function, including the role of advertising in marketing strategy, budgetary considerations, allocation among media, measurement of effectiveness, administration and control, and its economic and social implications.

**355 Credit and Credit Administration (3)**

Prerequisite: Marketing 351. The general nature and functions of credit, credit instruments; the operation of the credit department; sources of credit information; acceptance of credit risk; establishment of credit limits; and the problem of collections.

## **Marketing**

### **356 Creative Motivation in Marketing (3)**

Prerequisite: Marketing 351. Personal salesmanship and the application of the findings of the behavioral sciences to selling and group dynamics as they relate to the creative and promotional aspects of the business.

### **357 Industrial Purchasing (3)**

Prerequisite: Marketing 351. The principles and practices of purchasing for industrial organizations. Major buying policies, sources of materials, quantity and quality considerations, and the relation to production cost.

### **358 Physical Distribution (3)**

Prerequisite: Marketing 351. Consideration of the logistics problems of physically distributing products and the principles and practices of solving them. An evaluation of the transportation and storage of products based on considerations of cost, time, and service.

### **452 Marketing Research (3)**

Prerequisites: Marketing 351 and QM 361. The application of scientific methodology as an aid in solving problems of product planning, pricing, promotion, and distribution. Practical application is emphasized through class projects and case problems. (2 hours lecture; 2 hours activity)

### **453 Marketing to the Government (3)**

Prerequisite: Marketing 351. The marketing of defense and nondefense products to the government. The nature and administration of contractual agreements with government agencies.

### **454 Advertising Problems (3)**

Prerequisites: Marketing 354 or consent of the instructor, plus senior standing. Management of the advertising function in the marketing program. A study of the formulation of advertising policies, involving primarily an analysis of cases dealing with the role of advertising in marketing, the definition and choice of advertising objectives, strategy, appropriation policy, media selection, evaluation of advertising results, and the organization and implementation of the advertising program. Cases, simulations, and readings.

### **457 Sales Analysis and Control (3) (Formerly 307)**

Prerequisites: Accounting 201B and Marketing 351. The development of quantitative measures for marketing activity; costs of distributing through different channels of distribution, advertising versus personal selling, and movement activities; development of sales budgets, standard costs, and the analysis of actual performance in the light of budgets and standards. (Same as Accounting 307)

### **458 International Marketing (3)**

Prerequisites: Marketing 351 and Marketing Administration 353; or consent of instructor. Presents an analytical framework for studying the development of domestic marketing systems in the context of overall economic growth. Emphasis is given to U. S. firms involved in international marketing operations.

### **459 Marketing Problems (3)**

Prerequisite: Marketing 351, 353 and 452; or consent of instructor. Case studies of problems facing the marketing executive; identification and analysis of the problems; selection and evaluation of alternative solutions; and implementation of recommended solutions.

### **499 Independent Study (3)**

Prerequisites: Marketing concentration, senior standing, and approval by the department chairman. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.



**551 Seminar in Marketing Problems (3)**

Prerequisites: Marketing 351 and graduate standing. A managerial approach to the major marketing problems faced by industry: e.g., definition of and organization for the marketing task; demand analysis; decisions concerning product, price, promotion, and trade channels. A firm's adjustment to its marketing environment with emphasis on competitive strategy. The case approach supplemented with simulations and topical readings.

**552 Seminar in Pricing and Price Policy (3)**

Prerequisite: Marketing 551. A critical analysis of the pricing problems of a firm with alternative choices and diverse objectives. The pricing function will be examined from the standpoints of economic theory, management science, business practices, legal constraints, and ethical considerations. Relationship of pricing objectives, policies, strategies, and methods to market behavior and the goals of the firm. Pricing policies among businesses and their economic and social implications.

**553 Seminar in Product Planning (3)**

Prerequisite: Marketing 551. A course designed to assist marketing management in the formulation and execution of marketing plans for new and existing products. An examination of the management decision areas and procedures required for search, preliminary evaluation, development and testing, and commercialization of products. Particular emphasis on solving problems arising from product programs developed to assure corporate growth.

**554 Seminar in Promotion (3)**

Prerequisite: Marketing 551 or instructor's approval. A critical analysis of the promotion mix as employed by small, medium and large business organizations in their efforts to optimize profitable operations. Particular emphasis will be given to: determination of promotional goals, planning, budgeting, and controlling promotional programs; and measuring the effectiveness of the promotional effort.

**555 Seminar in Marketing Research (3)**

Prerequisites: Marketing 452 and 551 or consent of instructor. The application of scientific method to marketing decisions; research methodology and models; decision-making applications.

**556 Seminar in Consumer Behavior (3)**

Prerequisite: Marketing 551. A critical analysis of theories underlying consumer behavior. The orientation is on understanding and predicting consumer behavior.

**559 Seminar in Marketing Thought and Concepts (3)**

Prerequisite: Marketing 551. Application of theoretical concepts in the behavioral sciences, managerial sciences and quantitative methods to the development of theories and models in marketing. The emphasis is on the interdisciplinary exchange of ideas relating to marketing. Evolving concepts and theories in marketing are appraised. May be repeated for credit.

**597 Project (3)**

Open to qualified graduate students. Directed independent inquiry.

**598 Thesis (3-6)**

Open to qualified graduate students. Directed independent inquiry. Student will select and have approved a thesis topic, show evidence of original research, and must present himself for a defense of the thesis before a faculty committee.

**599 Independent Graduate Research (3)**

Prerequisites: graduate standing, the consent of the instructor, and approval by the department chairman. Open to qualified graduate students desiring to pursue independent inquiry. May be repeated for credit.

### QUANTITATIVE METHODS

#### **264 Computer Programming (1)**

Introduction to problem-oriented languages of computers. The solving of problems using computer programming. May be repeated for credit. (2 hours activity)

#### **265 Computer Programming and Applications (3)**

Prerequisite: two years of high school algebra. Computer programming. Introduction to matrix and set notation. Introduction to discrete probability. Descriptive statistics. Computer programming solutions of probability and statistical problems. (2 hours lecture; 2 hours activity)

#### **361 Business and Economic Statistics (3)**

Prerequisite: QM 265 or equivalent. Collection, analysis, and presentation of statistical data. Random sampling, estimation, and hypothesis testing. Introduction to regression and correlation.

#### **362 Introduction to Quantitative Methods in Economics (3)**

Prerequisites: Economics 100A, B, QM 361 and Economics 310 (may be taken concurrently). An introduction to basic mathematical tools and their application to economic theory. The nature of econometric models and the concept of identification. Estimation and evaluation of simple single equation linear models and an introduction to such problems as autocorrelation and multicollinearity. Not open to students who have taken QM 462.

#### **364 Computer Logic and Programming (3)**

Prerequisites: QM 264 or equivalent. An introductory survey of automata theory, switching theory, the organization of modern computing equipment and noninteractive machine language programming.

#### **446 Computer Programming Theory (3)**

Prerequisites: QM 264 and Math 150A or equivalent. Selected topics of concern to the computer programmer from the fields of numerical analysis and simulation theory with FORTRAN applications.

#### **461 Advanced Statistics (3)**

Prerequisites: QM 361 and Math 150A or equivalent. An advanced treatment of the theory and application of the topics covered in QM 361, using the methods of the calculus where appropriate.

#### **462 Mathematical Models in Business and Economics (3)**

Prerequisite: QM 361. Construction and application of mathematical models to business decision-making problems. Elementary mathematical optimization models.

#### **463 Introduction to Management Science (3)**

Prerequisites: Mathematics 150A and QM 361. Introduction to the basic concepts of Management Science and its relationship to economics and decision theory. Topics surveyed include optimization in continuous models, linear programming, queueing and inventory models, dynamic programming and decision making in the business environment.

#### **464 Information Structures, Information Storage and Retrieval (3)**

Prerequisites: QM 364 or consent of instructor. An examination of modern computer hardware, the techniques of programming it, and the languages in which such programs are written. Includes discussion of memory protection, interrupt systems, recursive programming, list-structured-languages and user-oriented languages.



**465 Linear Programming (3)**

Prerequisite: QM 361 (may be taken concurrently). The theory and applications of linear programming. Topics include: Linear programming and the Simplex Algorithm; starting procedures; the dual and economic interpretation; parametric programming and sensitivity analysis; transportation and assignment problems; dynamic programming.

**467 Statistical Quality Control (3)**

Prerequisites: QM 361. Shewhart Control Charts for variables, percent defective, and defects. Tolerances, process capacity, specialized control charts, and batch processing problems. Bayesian aspects of process control.

**469 Reliability Statistics (3)**

Prerequisite: QM 461 or equivalent. Statistical principles of reliability; hazard functions; point and interval estimation of reliability; reliability demonstration; growth models.

**499 Independent Study (3)**

Prerequisites: quantitative concentration, senior standing, and approval by the department chairman. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

**560 Operations Research (3)**

Prerequisites: Math 150A and QM 361. An examination of the nature and scope of Operations Research, with emphasis on the techniques of model construction. Topics surveyed include optimization in continuous models, linear programming, queueing and scheduling models, inventory models and dynamic programming, and decision making under uncertainty.

**561 Seminar in Operations Research (3)**

Prerequisite: QM 560 or consent of instructor. A particular topic in Operations Research, such as simulation, inventory theory, or synthesis of large scale systems will be covered in depth with special emphasis on research methods.

**563 Statistical Decision Theory (3)**

Prerequisite: QM 361. The analysis and application of advanced statistical techniques to the problems of management decision-making under conditions of uncertainty.

**565 Seminar on Computers in Industry (3)**

Prerequisites: QM 364, 464 or consent of instructor. An examination of developments and innovations concerning computers in industry. Artificial intelligence, information retrieval, and time sharing.

**566 Design of Experiments (3)**

Prerequisites: QM 361 and graduate standing. A survey of the fundamentals of experimental design, including analysis of variance, factorial experiments, nested designs, confounding, and fractional replication.

**597 Project (3)**

Open to qualified graduate students. Directed independent inquiry.

**598 Thesis (3-6)**

Open to qualified graduate students. Directed independent inquiry. Student will select and have approved a thesis topic, show evidence of original research, and must present himself for a defense of the thesis before a faculty committee.

**599 Independent Graduate Research (3)**

Prerequisites: graduate standing, the consent of the instructor, and approval by the department chairman. Open to qualified graduate students desiring to pursue independent inquiry. May be repeated for credit.

# SCHOOL OF EDUCATION

## PRESERVICE COURSES

### **101 Reading Development (1)**

An elective course for students enrolled at CSCF who wish to improve their reading efficiency. May be repeated for a maximum of three units of credit.

### **296 Educational Practicum (1-3)**

Conduct an individual educationally oriented experience with a child, youth, or young adult in an educational practicum location under the direction of a faculty member. Available to students who want or need public service experience with children, youth, or adults. Does not give credit toward any teaching credential. May be repeated for a maximum of six units of credit. Open to freshman and sophomore students. (3 hours laboratory per hour of credit)

### **308 Education of Various Cultural Groups: Early Childhood (3)**

A course designed for Head Start personnel and others engaged in the early education of culturally different children. Focus will be on the development of learning, curriculum content, and methodology related to various cultural groups. (2 hours lecture, 2 hours activity)

### **309 Fieldwork in the Education of Various Cultural Groups (3)**

Observation and participation in classes for various cultural groups. Integrated with coursework in Education of Various Cultural Groups. Must be taken concurrently with Educ 308. (9 hours laboratory)

### **312 Human Growth and Development (3)**

Prerequisite: Psych 101. A comprehensive study of human growth and development with emphasis on childhood, adolescence, and middle and old age. Includes mental, social, emotional, and physical development.

### **329 Fieldwork in Methods of Teaching in Elementary School (1)**

Prerequisites: Educ 411 and admission to teacher education. Must be taken concurrently with Educ 331A,B. Observation and participation in elementary school classrooms. Integrated with coursework in principles, curricula and methods.

### **331A Elementary School Principles, Curricula and Methods (4)**

Prerequisites: Educ 411, Math Ed 303A and admission to teacher education. Must be taken concurrently with Educ 329 and 331B. Principles, curricula, methods and materials of elementary school instruction with major emphasis on arithmetic, social studies and science. Includes audiovisual instruction, methods and techniques. Required of all candidates for the standard teaching credential with specialization in elementary school teaching. Includes screening for admission to student teaching. (3½ hours lecture, 1 hour activity)

### **331B Elementary School Principles, Curricula and Methods (3)**

Prerequisites: Educ 411 and admission to teacher education. Must be taken concurrently with Educ 329 and 331A. Principles, curricula, methods and materials of elementary school instruction with major emphasis on language arts and reading. Two semester hours devoted to methods of reading instruction, including phonics. Required of all candidates for the standard teaching credential with specialization in elementary school teaching. Includes screening for admission to student teaching. (2½ hours lecture, 1 hour activity)



### **339 Student Teaching in the Elementary School and Student Teaching Seminar (8 or 4)**

Prerequisites: Educ 331, three academic related courses, and admission to student teaching. Participation in a regular elementary school teaching program for the greater part of every school day. Includes a two-hour seminar each week in problems and procedures of elementary school teaching. Concurrent enrollment in other courses is discouraged. (Minimum of 30 hours a week in an elementary school, 2 hours per week seminar.)

### **340 Principles and Curricula of Secondary Education (3)**

Required first course in the professional sequence for the standard teaching credential with specialization in secondary teaching. Principles of secondary education in the United States: organization, curriculum, and teaching practices. Correlated with methods and materials courses in the major. Two hours of observation per week in selected junior and senior high school classes. Application for admission to teacher education is included. Each student is expected to complete all requirements for admission during Educ 340. (2 hours lecture, 2 hours fieldwork)

### **380 The Teaching of Reading (3)**

Curriculum and methods in the teaching of reading in the elementary and secondary schools. Examination and analysis of the approaches to reading in teachers' manuals and guides. Practical experience in preparing lessons in classroom teaching of reading.

### **401 Social Foundations of Education (4)**

Prerequisites: Educ 411, admission to teacher education or consent of instructor. Seminar in philosophical, historical, and sociological foundations of education, considered in the light of their influence on contemporary educational theory and practice in the United States.

### **402 Comparative Education (3)**

Prerequisite: Educ 401, 403, or consent of the instructor. A seminar centered in study of the various countries' and areas' education patterns, problems and trends as part of the cultural setting in which found; designed to deepen insights into our own culture's educational program and offer bases for comparative evaluation with other systems.

### **403 History of Education (3)**

Prerequisites: history of world civilization and Educ 331 or 442 or consent of the instructor. The main streams of educational history in Europe and America, with particular emphasis on the ways these main streams have affected the current scene in the United States.

### **406 Educational Sociology (3)**

Prerequisite: Educ 331 or 442, or consent of the instructor. The school in the social order; the school as a social system; analysis of cultural factors affecting the school; the special culture of the school; roles and role conflicts in the school; policy questions flowing from social issues and school-cultural relationships.

### **411 Psychological Foundations of Education (3)**

Prerequisites: Psych 101 and concurrent enrollment in upper division practicum or fieldwork. Prerequisite to other courses in the professional education sequence. Learning theory, thinking processes, and human growth and development. Students who have completed Psych 311 must have permission of instructor to enroll.

## Education

### **431 Principles and Curricula of the Elementary School (2)**

Prerequisite: Educ 411 or consent of the instructor. An introductory course in elementary education. Stress on major principles and basic curricular considerations. Importance of the elementary school system to society.

### **432 Teaching—in the Elementary School**

Prerequisites: Educ 411 or consent of the instructor. Courses, listed dually in the School of Education and in the other appropriate departments dealing with objectives, methods, and materials of teaching the various subjects and areas in the elementary schools. The courses are professional education courses and applicable toward credential requirements. Detailed descriptions of the courses are to be found in the materials of other departments within this catalog.

### **For Lang Ed 432 Teaching Foreign Languages in the Elementary School (2)**

### **436 Child Study Techniques for Teachers (3)**

Prerequisite: Educ 331 or permission of the instructor. This course deals with the techniques the classroom teacher may use in understanding individual children within his classroom who do not respond to the teacher and his peers in typical ways.

### **437 Problems in Early Elementary Education (3)**

Prerequisites: Educ 339 and consent of instructor. Study of current literature and recent research in the area of education of young children through individual and group study. Emphasis will be placed on problems centered in cognitive processes, content, structure, and instruction at the early elementary education level.

### **442 Teaching—in the Secondary School (2)**

Prerequisites: 20 units in the major, Educ 311, 340, admission to teacher education, and senior standing; or consent of the instructor. A series of courses, with the exception of business and social science methods, listed dually in the School of Education and in the other appropriate departments, dealing with objectives, methods, and materials of teaching, including audio-visual instruction, the various subjects and areas in secondary schools. Required, before student teaching, of students presenting major in these areas or subjects for the standard teaching credential with specialization in secondary school teaching. Students without teaching experience must register concurrently in Educ 449 to complete a teacher aide assignment in high schools.

### **Art Ed 442 Teaching Art in the Secondary School (2)**

### **Educ 442 Teaching Business in the Secondary School (2)**

### **Educ 442 Teaching Social Science in the Secondary School (2)**

### **Engl Ed 442 Teaching English in the Secondary School (2)**

### **For Lang Ed 442 Teaching Foreign Languages in the Secondary School (2)**

### **Journ Ed 442 Teaching Journalism in the Secondary School (2)**

### **Math Ed 442 Teaching Mathematics in the Secondary School (2)**

### **Mu Ed 441 Teaching Music Theory and Appreciation in the Public Schools (2)**

### **Mu Ed 442 Teaching Vocal Music in the Public Schools (2)**

### **Mu Ed 443 Teaching Instrumental Music in the Public Schools (2)**

### **PE 442 Teaching Physical Education in the Secondary School (2)**

### **Sci Ed 442 Teaching Science in the Secondary School (2)**



**Speech Ed 442 Teaching Speech in the Secondary School (2)**

**Theatre Ed 442 Teaching Theatre in the Secondary School (2)**

**443 Principles of Core Curriculum (2)**

Prerequisite: teaching experience or consent of the instructor. Unity and inter-relationships of human learning and behavior and the curricular processes and arrangements by which this may be achieved. Seminar on development, principles, and application of core curricula; guidance functions; evaluation; and roles of the teacher.

**445 Junior High School Education (3)**

Prerequisite: Educ 442 or 331 or consent of instructor. Seminar on principles and procedures for developing the junior high school program. Purposes, curriculum, and organization of the junior high school are stressed including examination of recent innovations and proposals. Designed for students with elementary or secondary backgrounds who plan to teach in the junior high school.

**446 Secondary School Curriculum (3)**

Prerequisite: student teaching or teaching experience or consent of instructor. Fundamentals of curriculum development. Seminar on current issues within secondary education. Curricular organization and current practices. Survey and evaluation of newer curricular programs.

**449 Fieldwork in Methods of Teaching in Secondary Schools (1)**

Prerequisite: Educ 340, 411, admission to teacher education or consent of instructor. Participation in the instruction of a secondary school class as a teacher aide. Integrated with coursework in the teaching of the major. Must be taken concurrently with Educ 442 and students must allow sufficient time in their schedules, at the same hour each day, to serve as a teacher aide.

**451 Principles of Educational Measurement (3)**

Prerequisite: Educ 411 or Psych 311. Development, validation, and application of the principles of educational measurement. Construction and use of informal and standardized achievement tests. Summary and interpretation of results of measurement.

**452 Principles of Guidance (3)**

An introduction to pupil personnel services in the public school setting. The relationship of historical, sociological, psychological and philosophical foundations to principles of counseling and guidance will be explored. The course is designed to give students an opportunity to examine their interest in pupil personnel work. Students will have an opportunity to participate in small groups and to conduct counseling interviews. Students seeking the special education credentials will emphasize the counseling and guidance of the exceptional student. The course serves as a vehicle to screen students into the pupil personnel services program.

**471 Exceptional Children (3)**

Corequisite: Educ 411 (or Educ 312 for students working toward the Restricted EMR Credential). Seminar on the study of children who deviate from the average in the elementary and the secondary schools; physically handicapped, mentally retarded, gifted, socially maladjusted, emotionally disturbed, and delinquent. Special educational services, curriculum, procedures, and materials necessary to promote their maximum development.

**472 Gifted Children (2)**

Prerequisite: Educ 411. Identification, principles of instruction, grouping, individualized instruction, classroom enrichment. Problem solving and research expe-

## **Education**

riences in science, social studies, and mathematics, reading programs and literature, creative writing, oral language.

### **473 Mental Retardation and Brain Injury (3)**

Prerequisite: Educ 471. Organic and cultural basis of mental retardation and brain injury, including social, psychological, and vocational problems. Child growth, sensory development, learning characteristics of mentally retarded and brain injured children, and techniques of working with parents will be considered.

### **474 Curriculum and Methods for Teaching the Mentally Retarded (3)**

Prerequisite: Educ 473. Curriculum development, methods, and materials for teaching the educable and trainable mentally retarded at the elementary and secondary levels.

### **475 Observation and Individual Instruction with the Mentally Retarded (3)**

Prerequisite: Educ 474. Supervised observation and participation with the educable and the trainable mentally retarded at both the elementary and secondary levels of education. (4 hours activity, 1 hour lecture and discussion.)

### **477 The Educationally Handicapped Child (3)**

Prerequisite: Educ 471. Behavioral characteristics of the educationally handicapped child, the child with a neurological handicap or a behavioral disorder as defined by the California Education Code. Educational procedures, perceptual and motor training, evaluation, parent guidance.

### **479 Seminar and Practicum in Education of the Trainable Mentally Retarded (6)**

Prerequisite: Consent of the instructor. Curriculum, methods, and materials for children having severe intellectual, motor, sensory and language impairment. Emphasis will be placed on the educational management of children exhibiting handicapping conditions. (3 hours seminar and 9 hours practicum in special school facilities.)

### **480 Issues in Higher Education (3)**

Seminar in structure, governance, administration and challenges of American higher education.

### **489 Fieldwork in Exceptional Children (3)**

Prerequisite: Educ 471 or consent of instructor. Direct supervised experience with educationally handicapped children.

### **491 Audiovisual Education (2)**

Prerequisites: Educ 411, 442, or consent of the instructor. Media in communication, psychological bases, development, curricular function, evaluation. Survey of equipment and materials available, preparation of instructional materials for classroom use. (1 hour lecture, 2 hours activity)

### **492 Television in the Classroom (2)**

Prerequisites: Educ 411 or consent of the instructor. Television as a vehicle for instruction, information, and enrichment. General theory of media in classroom, psychological bases, curricular capabilities and limitations of equipment. Responsibility of the classroom teacher. Practice in utilization process. (1 hour lecture, 2 hours activity)

### **493 Production of Audiovisual Materials (2)**

Prerequisites: Educ 491 or consent of the instructor. Exploration and development of audiovisual materials. Students will participate in script writing, story



board, photography and tape production. Experience will be provided in producing graphics, charts and bulletin boards. (1 hour lecture, 2 hours activity)

#### **496 Senior Educational Practicum (1-3)**

Conduct at an advanced level an educational practicum experience with an individual under the direction of a faculty member. May be repeated for a maximum of six units of credit.

#### **499 Independent Study (1-3)**

Prerequisite: senior or graduate standing, approval of instructor and department prior to registration. Conduct of an individual investigation under supervision of a faculty member; investigation might be an experiment, a library study, or a creative project; only students of demonstrated capacity and maturity will be approved; adequate prerequisite study necessary. May be repeated for credit.

### **GRADUATE COURSES**

#### **500 Survey of Collegiate Student Personnel Services (3)**

History, philosophy, objectives, organization and administration of collegiate student personnel services. (2 hours lecture, 2 hours activity.)

#### **501 Philosophy of Education (3)**

Prerequisites: postgraduate standing and Educ 339 or 739 or Educ 749, or consent of the instructor. Uses of theories of knowledge, value and reality in dealing with educational problems; application of contemporary systems of thought to education.

#### **503 Foundations for Administrative Leadership (3)**

Prerequisite: consent of the instructor. Seminar on cultures and values to which schools must contribute: introduction to community sociology, tax systems and public administration; the literature of leadership. Screening for admission to program. Occasional special meetings. Required of all students during first registration in school administration and supervision at this college.

#### **505 The Supervision of Curriculum (4)**

Prerequisite: Educ 566 or 586. Seminar on development of a quality program of instruction in both elementary and secondary schools; appraisal of programs of instruction; advanced principles of curricular review and modification. Evaluation of subject matter competence in area of supervisory specialization. Meets credential requirements in principles of curriculum construction and evaluation; supervision of instruction and curriculum in both elementary and secondary schools.

#### **506 Curriculum and Research in Reading (3)**

Prerequisite: consent of instructor. Study of curriculum and research in reading, including materials, organization, and methods of instruction.

#### **509 Theory and Practice in Educational Measurement (3)**

Prerequisite: Educ 411 or Psych 311. Introduction to basic concepts, theory, and procedures for construction of informal and standardized tests. Application of measurement theory and statistical techniques toward problems of analysis, scaling, norming, and interpretation of test results. Practice in item writing for short classroom tests and intensive analysis of selected commercial standardized tests.

#### **510 Research Design and Analysis (3)**

Prerequisites: bachelor's degree, Educ 509 or the equivalent. Elements of design, instrumentation, treatment of data, hypothesis testing and inference, and analysis of educational data. Develop a research proposal. Practice in analyzing and evaluating research reports.

## **Education**

### **511 Survey of Educational Research (3)**

Prerequisites: Educ 509, teaching experience. Review of descriptive statistics and statistical inference as applied to educational problems. Analysis of representative research papers. Principles of research design. Prepare a research proposal.

### **514 Graduate Seminar: Behavioral Research on Children with Learning Disorders (3)**

Prerequisites: Educ 510 or 511, consent of instructor, and teaching experience with exceptional children. Critical analysis of behavioral research on children with learning disorders. Resources, criteria for evaluation of studies with exceptional children, historical view of research in special education. Research relating to learning and handicapping conditions, and efficacy of special methods and materials will be reviewed.

### **516 Etiology of Reading Difficulties (3)**

Prerequisite: teaching experience, Educ 506 or consent of instructor. Studies of the factors underlying learning disabilities in reading in children, adolescents and young adults.

### **521 Group Processes in the Classroom (3)**

Prerequisite: Educ 471 or consent of instructor. Exploration of group interaction, teacher sensitivity, and their relevance to educational planning and management. Emphasis: emotionally disturbed, educationally handicapped.

### **522 Behavior Problems in the Classroom (3)**

Prerequisite: Educ 471 or consent of instructor. Identification and management of social and affective disturbances related to school performance. Emphasis: early detection, behavioral modification techniques, parent counseling, interagency cooperation.

### **523 Learning Problems in the Classroom (3)**

Prerequisite: Educ 471 or consent of instructor. Identification and educational management of learning problems. Emphasis: developmental sequences, related prescriptive teaching and remediation techniques.

### **530 Graduate Studies in Elementary Education: Foreign Language (3)**

Prerequisite: Educ 339, 739, or permission of instructor. Seminar for the study of pertinent investigations and their application in the classroom together with significant curriculum developments and organization in the newest area facing the elementary school educator. Criteria for appraising programs, personnel, and materials also will be discussed.

### **531 Graduate Studies in Elementary Education: Language Arts (3)**

Prerequisite: Educ 510 or permission of instructor. Seminar for advanced study of trends and problems in teaching the fundamental skills of communication in the elementary school. Analysis of research in the language arts and related disciplines as background for curriculum development.

### **532 Graduate Studies in Elementary Education: Mathematics (3)**

Prerequisites: Math Ed 303A, Educ 339 or 739, or permission of instructor. Seminar for the study of significant research, curricular developments and materials, criteria for planning and improving mathematics programs and instruction.

### **533 Graduate Studies in Elementary Education: Science (3)**

Prerequisites: Educ 339 or 739 or permission of instructor. Seminar for the study of significant research in elementary school science. Criteria for planning and improving science programs and the development of materials.



**534 Graduate Studies in Elementary Education: Social Studies (3)**

Prerequisites: Educ 339 or 739, or consent of instructor. Seminar for the study of significant research developments and materials, criteria for planning and improving social studies programs and current techniques of teaching.

**537 Seminar for Elementary Education (3)**

Prerequisite: Educ 339 or 739 or consent of the instructor. A study of problems and issues in elementary education, their causes and possible solutions.

**547 Seminar for Secondary Education (3)**

Prerequisite: Educ 749 or consent of the instructor. Persistent problems in secondary education and survey of related literature; causes of and solutions for these problems. Application of scientific method to educational problems, sources of educational research, and to techniques of cooperative thinking.

**550 Counseling Theories and Processes (3)**

Prerequisite: Educ 452. Seminar in the dynamics of counselor and client relationships, techniques and processes of various levels, and relation to personality theory. Major project and supervised practice required.

**551 Educational and Career Orientation (3)**

Prerequisite: Educ 550 or permission of instructor. Seminar in the principles of evaluating, classifying, and disseminating occupational and educational information in the guidance program; sources of occupational literature, occupational research, vocational surveys, and methods of studying the individual as a unique whole to help him develop his greatest career potential. Emphasis on the psychological, sociological, economic, and clinical implications of career and educational choice. A major project in career information is developed under supervision.

**552 Group Processes in Guidance (3)**

Prerequisite: Educ 550 or permission of instructor. Seminar in the intensive study of the dynamics of group processes including the function of leadership, effective membership and techniques of group problem solving. Special emphasis on clinical group counseling including a semester project in a school setting.

**553 Administration and Organization of Pupil Personnel Programs (3)**

Prerequisites: Educ 551 or permission of instructor. Seminar in the development, organization, supervision, and administration of the pupil-personnel services. Seminar on analysis and evaluation of pupil personnel services by the case study method, curriculum, counselor competencies, staffing; includes laws relating to children and child welfare.

**555 Dynamics of Individual Behavior and Case Study (3)**

Prerequisites: Educ 451, 550, or consent of instructor. Seminar in case conference techniques; clinical study of the techniques of individual diagnosis including the synthesis and interpretation of information. Use of the life or developmental record, self-ratings, behavior ratings and tests as they relate to counseling with the normal and abnormal pupil. Identification and remediation of learning difficulties emphasized.

**558A School Psychology: Seminar in Problems in Personality Diagnosis (5)**

Prerequisites: A clear California credential in school psychometry or psychology intern credential and admission by screening committee of Pupil Personnel Services. Seminar and internship and/or fieldwork in problems of personality assessment in the school setting, effecting changes in behavior among school pupils and personnel. Emphasizes role and function of the school psychologist in pupil personnel

## **Education**

services. Advanced experience in the clinical case study, application of understandings of the dynamics of individual counseling and group counseling to human behavior in the school setting.

### **558B School Psychology: Seminar in Problems of Learning (5)**

Prerequisite: Educ 558A. Seminar and internship and/or fieldwork in problems of learning and their remediation. Advanced work in diagnostic testing, clinical interpretation of data, remediation of identified problems. Advanced work in communication including reporting, individual counseling, group counseling and case conference.

### **559A,B Fieldwork in Pupil Personnel Services (2-6)**

Prerequisites: Educ 551, 552, 555, admission to the CSCF pupil personnel credential program and permission of instructor. Guidance and counseling in the school setting under the supervision of local coordinator and college staff. Work assignments vary for school counselors, psychometrists, and child welfare workers. Work in a counseling relationship, parent conferences, and follow-up studies. May be repeated for credit up to a maximum of 12 units.

### **560 Contemporary Problems in School Administration (3)**

A seminar on contemporary problems in school organization and administration with particular emphasis on collective bargaining, the computer as a business and educational tool, and the needs of urban schooling including the problems of racial isolation.

### **561 Organization of School Systems (3)**

Prerequisite: Educ 503 or concurrent enrollment. Seminar on structure, functions, trends, fiscal responsibilities and issues in respect to the government of education at federal, state, county, and local school district levels. Basic principles in school organization and administration. Special emphasis on intergovernmental relations and impact at local level.

### **563 Principles of School Personnel Administration (2)**

Prerequisite: Educ 503 or concurrent enrollment. Seminar on principles of organizational behavior, social processes inherent in effective leadership, and techniques of school personnel management.

### **564 Seminar in School Law (2)**

Prerequisite: consent of instructor. School law as a reflection of public policy; the California Education Code and the California Administrative Code, Title 5, and county counsel opinions as they affect administration, instruction, and financial management of public schools. Court attorney general decisions in interpreting school law. Legal basis for public education in California. An elective course in school administration.

### **565 Seminar in School Finance, Business Administration, and Buildings (3)**

Prerequisite: consent of instructor. Emphasis on school finance, business administration, and buildings as they implement an effective educational program. A study of financial principles. School revenues and expenditures, budgetary procedures and processes, cost analysis; business management, and salary policies. An elective course in school administration.

### **566 The Elementary School Principal and Supervisor (3)**

Prerequisites: Educ 561 and 563. May be taken concurrently with Educ 769. Seminar on leadership roles of elementary school principal and supervisor, pupil personnel and instructional program in elementary school; working relations and morale among staff, community and pupils; parent education; relations with central district staff; management and recordkeeping functions; teacher evaluation.



**567A,B Fieldwork and Seminar in School Administration (2,2)**

Prerequisites: Educ 566 or 586 or concurrent registration, and consent of instructor. Two-semester terminal sequence required for the M.S. in Education with a concentration in school administration. Includes directed field work in selected public schools and district offices. Supervised project or thesis required for degree. (4 hours fieldwork, 2 hours conference)

**568 Seminar for Administrative Trainees (3)**

The purpose of this seminar is to provide a behavioral analysis approach in the establishment of a sound foundation for educational administrators who have just completed a year of practice in administration. The seminar is the culminating offering of the Administrator Internship Program. The objectives of the seminar include (1) developing further insights into the complex behavior of human beings in social groups, (2) increasing understanding of how certain theory and research contribute to effective administrative practice, (3) evaluating further self-behavior in administration. Experienced school administrators who wish to relate their administrative experiences to the theory of behavioral analysis are welcome to register in the seminar. Behavioral environment will be examined as it shapes process, organization, and function in school administration.

**570 Graduate Seminar in Educational Psychology: Advanced Developmental Psychology (3)**

Prerequisite: consent of instructor. Research, theory and practice in the field of child and adolescent development.

**571 Graduate Seminar in Educational Psychology: Advanced Psychology of Learning (3)**

Prerequisite: consent of instructor. Research, theory and practice in the field of the psychology of learning with special attention to classroom learning.

**572 Psycho-Educational Clinic (2)**

Prerequisite: prerequisite sequence or equivalent and permission of the instructor. (Prerequisite sequence is Educ 475 or 477, 523, 570, and 571 concurrently with 572.) A clinical practicum for the purpose of developing clinical teaching skills in dealing with the learning problems of exceptional children, practice in working with formal and informal information-gathering devices, special teaching instruments, teaching systems, and teaching strategies. Students may, upon the recommendation of the instructor, repeat the course for credit one time. (6 hours laboratory)

**577 Seminar in Program Trends in Special Education (3)**

Prerequisite: recommendation of adviser and permission of instructor. A seminar designed for the study of historical development of educational programs for exceptional children. A critical analysis of issues and trends in special education.

**578 Administration and Supervision of Special Education (3)**

Prerequisite: Educ 577 or consent of instructor. Problems of organization, administration, and supervision of special education programs: finance and attendance, physical facilities, budgeting, needed equipment, community agencies and curriculum development.

**581 Analysis of Reading Difficulties (3)**

Prerequisites: bachelor's degree, teaching experience, Standard Teaching Credential, Educ 506 or consent of the instructor. Analysis and diagnosis of reading difficulties. Techniques and methods of prevention and treatment. Individual remediation of student. Primary through secondary.

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### **582 Analysis of Corrective Reading Practices (3)**

Prerequisite: Educ 516, 581, and consent of instructor. Critical evaluation of reading and remedial reading practices. Short-term project in a school situation.

### **583A,B Remedial Reading Casework (3)**

Prerequisite: Educ 582, and consent of instructor. Fieldwork in diagnosis and remediation in reading through casework technique. Conferences with teachers, parents, consultants, and administrators.

### **584 Linguistics and Reading (3)**

A study of linguistics and its influence on reading materials and instruction. An analysis of trends in reading and changes affected by the science of linguistics.

### **585 Word Perception Skills in Reading (3)**

Study of word perception skills in the process of learning to read. A developmental hygiene of child vision. Visual anomalies and their applications to reading disorders.

### **586 The Secondary School Principal, Junior College Administrator, and Supervisor (3)**

Prerequisites: Educ 561 and 563. May be taken concurrently with Educ 789. Seminar on leadership roles of the secondary school principal and supervisor, pupil personnel and instructional program in the secondary school; the development and administration of vocational and adult education; working relations and morale among staff, community and pupils, relations with central district staff; the management and record-keeping functions; teacher evaluation.

### **595 Advanced Studies (1-3)**

Graduate seminars designed to develop professional competencies in such areas as behavior, teaching strategies, educational technology, program development, communication theory and interpersonal relations. May be repeated for credit.

### **597 Project (1-3)**

Prerequisites: consent of instructor. Individual research on an empirical project, with conferences with the instructor, culminating in a project.

### **598 Thesis (1-3)**

Prerequisites: consent of instructor. Individual research with conferences with the instructor, culminating in a thesis.

### **599 Independent Graduate Research (1-3)**

Prerequisite: consent of the instructor. Open to qualified graduate students desiring to pursue independent inquiry.

## **PROFESSIONAL COURSES IN THE POSTGRADUATE PROGRAM**

### **702 Guidance of the College Bound Student (3)**

The study of admission to college: backgrounds, current issues and research, the admission process, scope and diversity of institutions of higher education in the United States.

### **709 Supervision of Student Teaching (3)**

Prerequisite: possession of a teaching credential and one year of teaching experience. Designed for teachers who supervise student teachers. Emphasis on principles and procedures of effective supervision and research.



**721 Philosophy and Objectives of Junior College Education (2)**

Prerequisite: postgraduate standing or consent of instructor. Origins of the junior college movement in higher education in the United States; economic, technological, and social forces creating needs for new and different post-high school education; objectives of junior college education; relationships to secondary and higher education; functions of the junior college; curriculum development and organization.

**739 Student Teaching in the Elementary School and Student Teaching Seminar (8 or 4)**

Prerequisites: Educ 331, three academic related courses, admission to student teaching, and postgraduate status. Participation in a regular elementary school teaching program for the greater part of every school day. Includes a two-hour seminar each week in problems and procedures of elementary school teaching. Concurrent enrollment in other courses is discouraged. (Minimum of 30 hours a week in an elementary school, 2 hours per week seminar.)

**744 Principles of Junior College Teaching (3)**

Prerequisite: postgraduate standing or consent of instructor. Psychological foundations of junior college teaching, measurement and evaluation of learning. Educational and philosophical bases for instructional procedures in the junior college. Instructional procedures including audiovisual materials, junior college class observations. (2 hours seminar, 3 hours fieldwork)

**749 Student Teaching In—in the Secondary School and Seminar (6 or 2)**

A series of courses in student teaching and seminars listed dually in the School of Education and in the other appropriate departments.

Prerequisites: Educ 442, 449, and admission to student teaching. Student teaching for the general secondary credential or the standard teaching credential with specialization in secondary school teaching. Participation in a regular secondary school teaching program for half-days for a full semester. Includes a seminar each week in problems and procedures of secondary school teaching, under the direction of the respective college supervisor. (Minimum of 15 hours a week in a secondary school; 2 hours per week in seminar)

**Art Ed 749 Student Teaching in Art in the Secondary School and Seminar (6)**

**Educ 749 Student Teaching in Business in the Secondary School and Seminar (6)**

**Educ 749 Student Teaching in Social Science in the Secondary School and Seminar (6)**

**Engl Ed 749 Student Teaching in English in the Secondary School and Seminar (6)**

**For Lang Ed 749 Student Teaching in Foreign Languages in the Secondary School and Seminar (6)**

**Journ Ed 749 Student Teaching in Journalism in the Secondary School and Seminar (6)**

**Math Ed 749 Student Teaching in Mathematics in the Secondary School and Seminar (6)**

**Mu Ed 749 Student Teaching in Music in the Secondary School and Seminar (6)**

**PE 749 Student Teaching in Physical Education in the Secondary School and Seminar (6)**

**Sci Ed 749 Student Teaching in Science in the Secondary School and Seminar (6)**

**Speech Ed 749 Student Teaching in Speech in the Secondary School and Seminar (6)**

## Health Education

### **Theatre Ed 749 Student Teaching in Theatre in Secondary School and Seminar (6)**

#### **769 Directed Fieldwork in Elementary School Administration and Supervision (2)**

Prerequisite: Educ 566 or concurrent registration. Work in selected elementary schools and district offices. Further details in special publications. (8 hours fieldwork, 1 hour conference)

#### **778 Fieldwork in Administration of Special Education (12)**

Prerequisite: Educ 577, and registration in Educ 578. Directed fieldwork in the administration of special education programs. An assignment will be made in public or private schools.

#### **779 Student Teaching With Mentally Retarded Pupils (4)**

Prerequisites: Educ 475 and concurrent enrollment in Educ 339 or 739 (for four units) or Educ 749 (for two units). Student teaching in a special class program for the educable or trainable mentally retarded at either the elementary or secondary level. (Elementary level: minimum of 30 hours a week in an elementary school; 2 hours per week in seminar. Secondary level: minimum of 15 hours a week in a secondary school; 2 hours per week in seminar.)

Students working for a Restricted EMR or Restricted TMR credential need only enroll in Educ 779 (4 units). Enrollment in Educ 339 or 739 is not required.

#### **789 Directed Fieldwork in Secondary School Administration and Supervision (2)**

Prerequisite: Educ 586 or concurrent registration. Work in selected secondary schools and district offices. Further details in special publication. (8 hours fieldwork, 1 hour conference)

#### **799 Junior College Student Teaching and Seminar (4)**

Prerequisites: Educ 744. Student teaching in the student's major field in a cooperating junior college for one semester. Weekly seminar on curriculum development and organization in the junior college, instructional procedures and materials, and instructional problems of the junior college student teacher. (Minimum of 9 hours a week in a junior college; 2 hours per week in seminar)

## HEALTH EDUCATION

(Offered by the Department of Health Education,  
Physical Education and Recreation)

#### **101 Personal and Community Health (2)**

Meaning and significance of physical, mental and social health as related to the individual and to society; alcohol and narcotics education; fire prevention; public safety and accident prevention.

#### **102 Prevention and First Aid (2)**

Study of the hazards in man's environment and the common accidents related thereto. Emphasis is placed upon both the care and prevention of accidents. Students will be certified in standard and advanced American Red Cross first aid procedures. (1 hour lecture, 2 hours activity)

#### **419 The School Health Program (3)**

Prerequisite: HE 101 or equivalent. Consideration of the three classical divisions of the school health program: instruction, services and environment. Study will include standards, problems, and relationships pertaining to these areas as well as a field project.



**PHYSICAL EDUCATION**

(Offered by the Department of Health Education,  
Physical Education and Recreation)

**General Education Requirements:****Health and Physical Education Electives**

There are no specific health and physical education requirements. Each student, however, must take a minimum of three courses (9 units) with one from each of three fields included in Category IV, Basic Subjects: computer science, elementary foreign languages, health education, mathematics, oral communications, physical education, reading, statistics or writing. See page 68.

**110 Aquatics (1) (Formerly 111-113)**

A physical activity experience in aquatics activities with a student in an educational setting and under the direction of a faculty member who directs the activity to meet the needs and interests of the student. Open to all students. May be repeated for credit.

**120 Group Activities (1) (Formerly 121-124 and 129)**

A physical activity experience in group activities with a student in an educational setting and under the direction of a faculty member who directs the activity to meet the needs and interests of the student. Open to all students. May be repeated for credit.

**130 Individual Activities (1) (Formerly 130-139 and 150-159)**

A physical activity experience in individual activities with a student in an educational setting and under the direction of a faculty member who directs the activity to meet the needs and interests of the student. Open to all students. May be repeated for credit.

**140 Dance Activities (1) (Formerly 141-149)**

A physical activity experience in dance activities with a student in an educational setting and under the direction of a faculty member who directs the activity to meet the needs and interests of the student. Open to all students. May be repeated for credit.

**170 Intercollegiate Sports (W) (1) (Formerly 170A,B)**

An intercollegiate activity experience in individual or team sports for women in an educational setting under the direction of a coach who directs the activity to meet the needs and interests of the student. Consent of coach required for enrollment.

**180 Intercollegiate Sports (M) (1) (Formerly 181-197)**

An intercollegiate activity experience in individual and team sports for men in an educational setting under the direction of a coach who directs the activity to meet the needs and interests of the student. Consent of the coach required for enrollment.

**PROFESSIONAL THEORY COURSES****201 Introduction to Physical Education and Recreation (3)**

Introduction to physical education programs in public and private agencies, personal, social and professional requirements of the physical education teacher and recreation leader, includes the origin and development of the professions of health education, physical education and recreation with emphasis upon their significance and function in contemporary American culture.

## Physical Education

### 205 Professional Activities: Sports/Dance (2)

Prerequisite: open to physical education major.

Development of skills and knowledge in selected sports and dance activities;

- (1) Combatives, modern dance, gymnastics;
- (2) Archery, badminton, dance, golf;
- (3) Basketball, track & field, tennis, volleyball;
- (4) Football, soccer, baseball, tumbling (m);
- (5) Field hockey, soccer, softball, tumbling (w); May be repeated four times.  
(4 hours activity)

### 206 Techniques of Officiating Team Sports

Analysis of officiating techniques and rules necessary for officiating team sports. May be repeated for various sports or combinations of sports. (1 hour lecture, 2 hours activity)

### 210 Water Safety Instructor (2)

Prerequisite: PE 110 (Life Saving) or equivalent and consent of the instructor. This course prepares the student to teach swimming and life saving and to supervise aquatic programs. Successful completion of this course will qualify the student for certification as an ARC Water Safety Instructor. (1 hour lecture, 2 hours activity)

### 214 Skin and Scuba Diving (2)

Prerequisites: PE 110 (Life Saving) or equivalent and the consent of the instructor. The techniques of skin and scuba diving. Theory of diving, safety procedures and applications of diving will be covered. (1 hour lecture, 2 hours activity)

### 301 Prevention and Care of Athletic Injuries (2)

Prerequisite: Upper division standing, successful completion of HE 102 (or equivalent) and instructors permission. Designed to assist trainers, coaches, physical education instructors, health educators, YMCA and playground personnel, and athletes in the prevention and care of athletic injuries. Emphasis will be on practical applications as well as theory. (1 hour lecture, 2 hours activity)

### 311 Analysis of Aquatics (2)

Prerequisites: PE 110 (Life Saving) or equivalent and permission of the instructor. Analysis of springboard diving, instructional and competitive swimming, waterpolo, and skin and scuba diving. (1 hour lecture, 2 hours activity)

### 312 Analysis of Combatives (2)

Prerequisite: PE 130 (Combatives—Men) or equivalent. Analysis of judo (jui-jitsu), wrestling and self-defense. (1 hour lecture, 2 hours activity)

### 313 Analysis of Folk, Square and Social Dance (2)

Prerequisite: PE 140 (Social Dance and Square Dance) or equivalent. Analysis of basic dance skills, international folk, square, round and social dancing. (1 hour lecture, 2 hours activity)

### 314 Analysis of Individual and Dual Sports (2)

Prerequisites: proficiency in skills covered and permission of the instructor. Analysis of archery, badminton, golf and tennis. (1 hour lecture, 2 hours activity)

### 315 Analysis of Modern Dance (2)

Prerequisites: PE 140 (Beginning Modern Dance and Intermediate Modern Dance) or equivalent and permission of instructor. Analysis of modern dance including choreography, program planning and dance accompaniment. (1 hour lecture, 2 hours activity)



**317A Analysis of Team Sports (W) (2)**

Prerequisites: proficiency in the skills covered and permission of the instructor. Analysis of basketball, softball, soccer, speedball, and speed-a-way (1 hour lecture, 2 hours activity).

**317B Analysis of Team Sports (W) (2)**

Prerequisites: proficiency in the skills of the sports covered and permission of the instructor. Analysis of volleyball, field hockey, track and field (1 hour lecture, 2 hours activity).

**318 Analysis of Team Sports (M) (2)**

Prerequisites: PE 120 (Team Sports—Men) or equivalent and permission of instructor. Analysis of soccer, softball, speedball, and volleyball. (1 hour lecture, 2 hours activity)

**319 Analysis of Gymnastics and Tumbling (2)**

Prerequisites: PE 130 (Beginning Gymnastics and Tumbling) or equivalent and permission of the instructor. Analysis of apparatus gymnastics and tumbling. (1 hour lecture, 2 hours activity)

**320 Theory of Coaching Basketball (2)**

Prerequisites: proficiency in basketball and permission of the instructor. Analysis of skills, instructional procedures and coaching techniques necessary in coaching competitive basketball. (1 hour lecture, 2 hours activity)

**321 Theory of Coaching Baseball (2)**

Prerequisites: consent of the instructor and upper division standing. This course is designed to help prepare the student as a coach of baseball. Emphasis is on offensive and defensive coaching techniques as well as conditioning, budget preparation, purchase and care of equipment, scheduling, officiating, and design and care of facilities. (1 hour lecture, 2 hours activity)

**322 Theory of Coaching Track and Field (2)**

This course is designed to prepare students in the fundamental techniques of coaching track and field activities. (1 hour lecture, 2 hours activity).

**323 Theory of Coaching Football (2)**

This course is designed to present materials, methods of fundamental skills, knowledge of offensive and defensive formations, and the coaching techniques and procedures necessary in coaching competitive football. (1 hour lecture, 2 hours activity)

**324 Theory and Principles of Human Motor Learning (3)**

Prerequisites: PE 201 and permission of the instructor. An analysis of current theories of motor learning as related to human performance. Philosophical bases are developed from which basic principles are evolved.

**325 Case Studies in Human Motor Learning (3)**

Prerequisite: PE 324. Case studies involving human physical performance. Sequence of activities, individual needs, institutional patterns of organization and programming.

**333 Physical Education and Human Development (3)**

Prerequisite: Educ 411. Emphasis is placed upon characteristics of the child, particularly as these relate to physical growth and development; basic mechanical principles underlying efficient movement; and programs for physical needs of children in the elementary school.

## **Physical Education**

### **335 Afro-American Dance (2)**

Study of primitive and tribal rhythms including jazz and other derivational dances of Africa. (1 hour lecture, 2 hours activity)

### **416 Kinesiology (3)**

Prerequisite: Bio Sci 361 or equivalent. The study of human motion.

### **417 Physiology of Exercise (3)**

Prerequisite: Bio Sci 361 or equivalent. The study of physiological processes in physical activities and the effects of training upon performance.

### **418 Adapted and Corrective Activities (3)**

Prerequisite: PE 416. The study and selection of activities and programs for students physically unable to participate in the regular physical education program.

### **420 Tests and Measurements in Physical Education (3)**

A study of the development and use of tests and measurements in physical education in the evaluation of objectives, programs, and student achievement.

### **425 Special Programs in Physical Education (1-3)**

Prerequisite: upper division standing. Group investigation of selected topics determined by professionals in the field. Will be offered as a one-, two- or three-unit course. May be repeated for credit.

### **431 Health, Physical Education, Recreation and Athletics in the Junior Colleges (3)**

This course is designed to prepare students for junior college teaching and for administrative positions. It will investigate the role of health, physical education, recreation and athletics in the junior college curriculum. Fieldwork and campus visitations required.

### **435 Physical Activity in Cultural Perspective (3)**

Prerequisite: senior or graduate standing. An interdisciplinary approach to the examination of physical activity in the cultural milieu. Study will cover historical and contemporary interpretations of the role of play, games and sports, dance and recreation in human life.

### **442 Teaching Physical Education in the Secondary School (2)**

Prerequisite: Education 340, Education 411, admission to teacher education, senior standing or consent of the instructor. The student who has not had teaching experience must register concurrently in Education 449. See page 131 under Secondary Education for description of Standard Teaching Credential Program. Objectives, methods, and materials including audiovisual instruction for teaching physical education in secondary schools.

### **484 Advanced Analysis of Movement Skills (3)**

Prerequisite: PE 140 (Intermediate Modern Dance and Advanced Modern Dance) or consent of the instructor. Study of theories, approaches, and techniques in advanced movement skills. Emphasis is on personal development of physical skills. (2 hours lecture, 2 hours activity)

### **486 Significant Forms of Movement (3)**

Prerequisite: PE 140 (Intermediate Modern Dance and Advanced Modern Dance) or consent of the instructor. Theoretical and connotative aspects of significant forms in sport and other formulated categories of movement. Solo and group work. (2 hours lecture, 2 hours activity)



**496 Physical Education Practicum (1-3)**

Prerequisite: consent of the department chairman and instructor. Participation as an assistant in planning, preparing, coaching, teaching in public school, college, or community physical education or recreation programs. May be repeated for a maximum of six units of credit.

**499 Independent Study (1-3)**

Prerequisite: upper division standing and consent of faculty adviser, professor supervising the study and department chairman. Independent inquiry into problems of topics of special interest beyond the scope of regular coursework. May be repeated for credit up to six units.

**510 Research in Health Education, Physical Education and Recreation (3)**

Prerequisite: graduate status or instructor's permission. The role and functions of research in health, physical education, and recreation; included are the different types of research with tools of and equipment for the respective research. Selection and development of research problems and critique of completed studies are stressed.

**515 Seminar in Physical Education (3)**

Prerequisite: graduate status with a major or minor in physical education. A study of current problems and issues in physical education through a critical analysis of the literature in the field and research findings.

**516 Philosophical Bases of Physical Education (3)**

Prerequisite: graduate status with a major in physical education. Identification of philosophical schools of thought as related to physical education including the role of the philosophical process. Examination and application of the philosophical process in physical education.

**520 International Physical Education (3)**

Prerequisite: graduate status with a major in physical education. An in depth study of the theory and practice of physical education and sports in selected foreign countries. Evaluation of foreign physical education programs in relation to programs witnessed in the United States.

**530 Administration and Supervision of Health Education, Physical Education and Recreation (3)**

Prerequisite: graduate status with major in physical education. An in depth study and critical analysis of existing programs in health education, physical education, and recreation in terms of established evaluative criteria and norms of practice.

**532 Curriculum Design in Physical Education (3)**

Prerequisite: graduate status with a major in physical education. Study in desirable practices, procedures, and factors influencing curricular development in the field of physical education. Especially designed for the practicing teacher, supervisor of physical education, and the school administrator concerned with physical education in the total school program.

**533 Facilities Development and Planning (2)**

Prerequisites: graduate status and a major in physical education. Analysis of new trends and research in the development of indoor and outdoor facilities in planning programs in health education, physical education and recreation with special emphasis upon design, safety, features, site selection, building construction and equipment needs.

## **Physical Education**

### **540 Seminar in Problems in Adapted Physical Education (3)**

Prerequisite: PE 418. Identification and solutions of problems in planning, organization, administration, and evaluation of adapted physical education programs at local, state, and national levels.

### **545 Seminar in Evaluation in Physical Education (3)**

Prerequisite: graduate status with a major in physical education. The study and application of advanced evaluation procedures and scientific instrumentation used in the solution of current problems and projects in physical education.

### **551 Seminar: Advanced Study in Physiology of Exercise (3)**

Prerequisite: PE 417 or equivalent. A study of advanced theories of exercise and physiological function.

### **552 Human Bio-Kinetics (3)**

Prerequisite: PE 416 or equivalent background in kinesiology and physiology. A study of advanced theories and a detailed analysis of human movement.

### **555 Scientific Bases of Training (3)**

Prerequisites: graduate status, coursework in kinesiology, physiology of exercise, bio-kinetics, and permission of the instructor. Detailed study of contemporary training with specific attention to the development of those qualities involved in various sports. Experience in evaluation of the effects of training.

### **560A Advanced Study in Performance: Badminton and Tennis (2)**

Prerequisites: graduate status, advanced preparation and/or experience in badminton and tennis or permission of the instructor. Theory and analysis of top level performance. Includes in depth study of skills, techniques and strategy involved in badminton and tennis and the factors pertinent to outstanding athletic performance.

### **560B Advanced Study in Performance: Gymnastics (2)**

Prerequisites: graduate status, advanced preparation and/or work in gymnastics or permission of the instructor. Theory and analysis of top level performance. Includes in depth study of the skills and techniques involved in gymnastics and the factors pertinent to outstanding athletic performance.

### **560C Advanced Study in Performance: Track and Field (2)**

Prerequisites: graduate status, advanced preparation and/or work in track and field or permission of the instructor. Theory and analysis of top level performance. Includes in depth study of the skills, techniques, and strategy involved in track and field and the factors pertinent to outstanding athletic performance.

### **596 Advanced Studies in Physical Education (1-3)**

Prerequisites: graduate status and a background in the history of physical education. A critical examination of the inter-relationship of sport and athletics with other aspects of the culture; special emphasis on 20th century America.

### **598 Thesis (4)**

Prerequisites: PE 510 and permission of the instructor. Individual research on an empirical problem. Conferences with thesis chairman and committee, culminating in a thesis.

### **599 Independent Research (1-3)**

Prerequisites: graduate status and consent of the faculty adviser and department chairman. Research for qualified graduate students desiring to pursue independent inquiry. May be repeated for credit.



**749 Student Teaching in Physical Education in the Secondary School and Seminar**

(6)

See page 269 for description and prerequisites.

**RECREATION**(Offered by the Department of Health Education,  
Physical Education and Recreation)**203 Recreation Programs and Activities (2)**

Prerequisite: consent of the instructor. Theory and activity course, leadership in recreation programs, activities in recreation agencies. Laboratory experiences and practice included. (4 hours activity)

# SCHOOL OF ENGINEERING

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## **100A,B Introduction to Analysis (3,3)**

Prerequisites: two years of high school algebra, one year of high school geometry. Algebraic, exponential and trigonometric functions and relations. Coordinate geometry and vectors. Real and complex numbers. Designed to prepare students better for a first course in calculus. Does not carry graduation credit for engineering, mathematics, or science majors.

## **101 Introduction to Engineering (1)**

An introduction designed to familiarize the student with the nature, responsibilities and opportunities of the profession.

## **102 Graphical Analysis (2)**

Graphics as fundamental means of communication in engineering analysis and design; development of spatial visualization; freehand sketching; descriptive geometry and modern engineering drawing practice. Methods of engineering design and design project. Graphical computation; nomography, representation and analysis of empirical data. (6 hours lecture-laboratory)

## **110A,B The Man-Made World (3,3)**

Prerequisite: Must be non-science, non-mathematics, non-engineering major; corequisite: Egr 111A,B (laboratory). The methodology of the technological age. The use of models of the real world to arrive at rational decision making. Control, amplification, and feedback.

## **111A,B The Man-Made World (1,1)**

Corequisite: Egr 110A,B. Laboratory to accompany Egr 110A,B. Simulation of real situations with models.

## **201 Mechanics (3)**

Prerequisites: Math 150B and Physics 225A. An introductory development of the fundamentals of statics with emphasis on application to strength of materials.

## **202 Properties of Engineering Materials (3)**

Prerequisites: Chem 101 and Egr 201. Scientific and engineering principles important in the selection and design of engineering materials, variables influencing material properties, concepts of stress and strain, Hooke's law. Equilibrium of rigid bodies, introduction to metallurgy; material models; dislocations and other defects in solids, strengthening mechanisms, modes of failure.

## **205 Digital Computation (2)**

Corequisite: Math 150A. Comprehensive coverage of FORTRAN IV followed by an introduction to numerical methods and the solution of elementary engineering problems on the digital computer.

## **300 Electric Circuits (3) (Formerly 203)**

Prerequisites: Physics 225B and Math 250; corequisite: Egr 300L. Ohm and Kirchhoff laws; mesh-current and nodal analyses methods; basic network theorems; transients in RL, RC and RLC circuits; phasors, sinusoidal analysis; current, voltage and power relationships in single phase circuits; complex frequency and S-plane plots; frequency response and resonance; and magnetically coupled circuits.

## **300L Electric Circuits Laboratory (1) (Formerly 203L)**

Corequisite: Egr 300. Laboratory applications of Egr 300. (3 hours laboratory)



**301 Strength of Materials (3)**

Prerequisites: Math 250 and Egr 202. States of stress and strain. Analysis and design of structural elements (pressure vessels, beams, torsion bars, springs), fracture criteria, statically indeterminate problems, energy methods, buckling of columns.

**302 Dynamics (3)**

Prerequisites: Math 250 and Egr 201. Kinematics and kinetics of particles and rigid bodies, Newton's laws, work and energy, impulse and momentum. Solution of problems by using vector approach is emphasized.

**303 Electronics (3)**

Prerequisites: Egr 300 and 300L; corequisite: 303L. Characteristics and applications of the ideal diode, semiconductor materials and the p-n junction, field-effect transistors, bipolar-junction transistors, vacuum tubes; applications of electronic devices (rectifiers, clippers, clampers, amplifiers).

**303L Electronics Laboratory (1)**

Corequisite: Egr 303. Laboratory study of transistors, diodes, electron tubes, electronic circuits. (3 hours laboratory)

**304 Thermodynamics (3)**

Prerequisites: Math 250 and Egr 201. The study of thermodynamic properties, heat and work, the first and second laws of thermodynamics, the Carnot cycle, heat engines and refrigerators.

**305 Transport Processes (3)**

Prerequisites: Math 250 and Egr 201. The study of one-dimensional steady heat conduction, radiation heat transfer, fluid statics, ideal and real fluid flows, free and forced heat convection.

**306A Unified Laboratory (1)**

Prerequisite: Egr 202 or equivalent; corequisite: Egr 305. Observations and measurements in the laboratory as an introduction to the experimental method. Static and dynamic measurements are made on simple engineering systems (beams, columns, pendulum, gyroscopes) using mechanical and electrical transducers. Report writing is emphasized. (3 hours laboratory)

**306B Unified Laboratory (1)**

Prerequisites: Egr 305 and 306A. A continuation of Egr 306A. More complex engineering systems are considered with fluid flow and thermal measurements required. (3 hours laboratory)

**308 Engineering Analysis (3)**

Prerequisite: Math 281 or permission of instructor; corequisite: Egr 205. Fourier series and integrals, complex variables, Laplace transform theory, and partial differential equations; engineering applications.

**309 Networks and Transmission Lines (3)**

Prerequisites: Egr 300 and 300L. Continuation of Egr 300. Two-port network theory, network topology, polyphase circuits, transmission line theory and matching.

**310 Electronic Circuits: Discrete and Integrated (3)**

Prerequisites: Egr 303 and 303L; corequisite: Egr 312. Continuation of 303, multistage amplifiers and feedback, frequency characteristics of amplifiers, tuned amplifiers, frequency characteristics and stability of feedback amplifiers, oscillators and power amplifiers.

### **311 Field Theory (3)**

Prerequisites: Physics 225B and Math 281. Fundamental concepts and experimental background underlying the formulation of electric, magnetic and electromagnetic field theory. Electric and magnetic fields produced by charge and current distributions. Effect of magnetic, dielectric and conducting materials. Forces produced on charges, currents and material media. Electromagnetic and magnetoelectric induction. Reduction of field theory to circuit theory. Capacitance, inductance and resistance.

### **312 Linear System Analysis (3)**

Prerequisites: Egr 300, 302 and 308. Analysis of lumped linear physical systems, electrical and mechanical analogies, block diagrams, signal flow graphs, frequency response, and feedback concepts.

### **315 Electronics and Circuits Laboratory (1)**

Corequisite: Egr 310. Experimental study of active networks. (3 hours laboratory)

### **316 Applied Thermodynamics (3)**

Prerequisites: Chem 105, Egr 205 and 304. Continuation of Egr 304, additional coverage of power and refrigeration cycles. Maxwell's relations, mixtures of real and ideal fluids, chemical reactions (emphasis on combustion), phase and chemical equilibrium.

### **320 Metallurgy (3)**

Prerequisite: Egr 202. Structure and properties of metals and alloys, influences of mechanical and thermal treatments, plastic deformation, work hardening and recrystallization, grain growth, alloy diagrams, solution hardening, diffusion hardening, precipitation hardening, the iron-carbon system, composite materials, brittle, creep and fatigue failures.

### **323 Structural Analysis (3)**

Prerequisite: Egr 201; corequisite: Egr 202. Analysis of beams, space trusses, frames, arches. Analysis of statically indeterminate structures. Introduction to finite difference method in structural mechanics.

### **324 Soil Mechanics and Foundations (3)**

Prerequisites: Egr 201 and 301. Soil properties and soil action as related to problems encountered in engineering structures; compression shear strength, stability and lateral earth pressures.

### **324L Soil Mechanics and Foundations Laboratory (1)**

Corequisite: Egr 324. Laboratory exercises supporting Egr 324. (3 hours laboratory)

### **326 Structural Design (3)**

Prerequisite: Egr 323. Elements of the design of steel, timber members. Connection details. Design of complete structures for both vertical and lateral loads.

### **331 Mechanical Behavior of Materials (3)**

Prerequisite: Egr 202. Plastic deformation mechanisms, treatment of plastic deformation, fatigue, creep and fracture. Case studies.

### **333 Introduction to Aerodynamics (3)**

Prerequisite: Egr 305. Kinematics of fluid flow, classification of flow fields, Euler and Navier-Stokes equations, the Bernoulli equation, flow measurement, wind tunnel testing laminar and turbulent flow through ducts of varying cross-section-aerodynamic forces, effect of Reynolds number and Mach number.



**335 Mechanical Analysis (3)**

Prerequisites: Egr 202 and 302; corequisite: Egr 335L. Kinematics and dynamics of mechanisms, analysis of linkages, gears, cams, etc. using analytical and graphical techniques, balancing.

**335L Mechanical Analysis Laboratory (1)**

Corequisite: Egr 335. Analytical and graphical techniques will be used in solving engineering type problems in mechanical design. (3 hours laboratory)

**360 Electrical Engineering Design Projects Laboratory (2)**

Prerequisites: Egr 310 and 312; within 20 units of graduation. The application of fundamental engineering principles to typical design problems in the field of electrical engineering. (6 hours laboratory)

**361 Mechanical and Aerospace Design Projects Laboratory (2)**

Prerequisite: within 20 units of graduation. The application of fundamental engineering principles to typical design problems in the mechanical/aerospace engineering field. (6 hours laboratory)

**370 Seminar in Engineering (1)**

Prerequisite: senior standing in engineering. The engineering profession, professional ethics, and related topics.

**371 Technical Seminar in Engineering (1)**

Prerequisite: senior standing in engineering. Recent developments in engineering. Oral and written reports.

**375A,B Electrical Engineering Laboratory (2,2)**

Prerequisites: Egr 310 and 312. Laboratory investigations of electronic and electromechanical components and systems including experimental studies involving feedback control systems; analog computer studies. (6 hours laboratory)

**376A Mechanical Engineering Laboratory (2)**

Prerequisites: Egr 306B and 312. Experimental studies of dynamic systems, error analysis, simulation and solution of dynamic problems on the analog computer. (6 hours laboratory)

**376B Mechanical Engineering Laboratory (2)**

Prerequisites: Egr 304 and 306B. A laboratory investigation of mass transfer, heat transfer, and thermodynamic phenomena and their interaction with mechanical systems. (6 hours laboratory)

**401 Dynamics of Machines (3)**

Prerequisite: Egr 335. The study of masses, motions and forces in machines. Static forces, inertia forces, balancing of machines and the principles of the gyroscope, mechanical vibrations, critical speeds are some of the topics covered.

**402 Digital Computer Logic Design (3)**

Prerequisite: Egr 205 or equivalent. Introduction to digital computers, Boolean algebra, number representations. Analysis, simplification and synthesis of combinational and sequential networks.

**402L Digital Techniques Laboratory (1)**

Corequisite: Egr 402. Experimental study of digital logic and switching circuits. (3 hours laboratory)

**403 Computer Methods in Numerical Analysis (3)**

Prerequisites: Egr 205 and 308 or equivalent. The use of numerical methods and digital computers in the solution of algebraic, transcendental, simultaneous, ordinary and partial differential equations.

## **Engineering**

### **404 Analog Computation (2)**

Prerequisite: Egr 312; corequisite: Egr 404L. Basic analog computer elements, programming, the solution of linear and nonlinear problems, transfer function generation, simulation.

### **404L Analog Computation Laboratory (1)**

Corequisite: Egr 404. Experimental study of linear and nonlinear problems using an analog computer. Simulation studies of physical systems. (3 hours laboratory)

### **405 Digital Computer Design and Organization (3)**

Prerequisites: Egr 303 and 402. Digital computer organization; arithmetic operations: addition, subtraction, multiplication, division; control unit: instruction format, types, acquisition, execution; memory unit: organization, types, hierarchies; input-output unit: methods, data organization.

### **406 Dynamics Response (3)**

Prerequisites: Egr 205 and 312. Steady and transient oscillations, lumped and distributed parameter systems, vibration isolation and vibration absorption.

### **406L Dynamic Response Laboratory (1)**

Prerequisite: Egr 376A; corequisite: Egr 406. Steady and transient response of dynamic and control systems, linear and nonlinear systems, analog and digital simulation and computation. (3 hours laboratory)

### **407 Transfer and Rate Processes (3)**

Prerequisites: Egr 205, 305 and 308. Analysis of two- and three-dimensional steady and unsteady heat conduction, radiation heat transfer, forced and free convection for interior and exterior surfaces, heat transfer with a change in phase and heat transfer in high-speed flow.

### **408 Reinforced Concrete Design (3)**

Prerequisites: Egr 301 and 323. Theory of reinforced concrete. Design of reinforced concrete slabs, beams, columns, buildings and bridges. Introduction to pre-stressed concrete, ultimate strength theory.

### **409 Intermediate Structural Design (3)**

Prerequisites: Egr 323, 326 and 408. Analysis of structural systems, such as buildings, bridges. Various considerations leading to the final selection of a structural design scheme. Design philosophy, code interpretation. Design projects.

### **410 Space Dynamics (3)**

Prerequisite: Egr 312. Kinematics and dynamics of particles and rigid bodies, potential fields, orbit theory, transfer between orbits, rendezvous; introduction to gyroscopic instruments.

### **411 Dynamics of Structures (3)**

Prerequisites: Egr 301, 308 and 323, or equivalent. Free and forced vibrations of discrete systems, response of structures to impulse loads and earthquakes. Matrix formulation and normal coordinates analysis. Vibration of beams.

### **412 Theory of Elasticity (3)**

Prerequisites: Egr 301 and 308. The differential equations which govern the behavior of an elastic solid, and their applications to a variety of problems in two and three dimensions using various coordinate systems.

### **413 Electromechanical Energy Conversion (3)**

Prerequisites: Egr 309 and 312. Basic principles of electromechanical energy conversion machinery and transducers. Magnetic circuits and transformers. Performance and control of synchronous, induction and direct-current machines.



**413L Electromechanical Energy Conversion Laboratory (1)**

Corequisite: Egr 413. Experimental study of electromechanical machinery and transducers. (3 hours laboratory)

**414 Matrix Analysis of Structures (3)**

Prerequisites: Egr 301, 323 and 308 or equivalent. Introduction to matrix algebra; use of matrix formulation in the analysis of structures; flexibility and stiffness methods; use of the matrix method on a digital computer.

**415 Gas Dynamics (3)**

Prerequisites: Egr 304 and 305. Thermodynamics of compressible fluid flow, normal and oblique shocks, flow through converging-diverging passages, flow in ducts with heating or cooling, interaction of shocks and expansion waves.

**416 Feedback Control Systems (3)**

Prerequisite: Egr 312. Basic servomechanism characteristics; classification of feedback systems; static error coefficients; application of root-locus and frequency response methods to feedback control systems; introduction to state-space system description; forward path and feedback compensation methods.

**417 Engineering Economy (2)**

Prerequisite: senior standing in engineering. Development, evaluation and presentation of alternatives for engineering systems and projects using principles of engineering economy and cost benefit analysis. Examination of the relationships between the engineer and other members of the enterprise environment. Examination of the engineer's ethics, value systems and nonquantifiable inputs from the enterprise environment.

**418 Foundation Design (3)**

Prerequisites: Egr 323, 326 and 408. Design loads for foundation structures. Design of footings, retaining walls, piled foundations, bulkheads, other waterfront structures.

**419 Electromagnetic Field Theory (3)**

Prerequisite: Egr 311. Continuation of Egr 311 to provide a greater depth and extension of coverage, energy in fields, Maxwell's equations, boundary value problems, propagation, guided waves.

**420 Limit Analysis of Structures (3)**

Prerequisites: Egr 301 and 323. General theory of elastic-plastic state of materials; concept of yield hinges and yield lines; analysis of continuous beams, frames, plates.

**421 Mechanical Design (2)**

Prerequisites: Egr 301 and 335; corequisite: Egr 421L. The application of the principles learned in mechanics of rigid and deformable bodies to the proportioning of machine elements to engineering problems.

**421L Mechanical Design Laboratory (1)**

Corequisite: Egr 421. Analysis, formulation and solution of engineering type problems encountered in mechanical design. (3 hours laboratory)

**423 Engineering Probability and Statistics (3)**

Prerequisite: Egr 308, or consent of instructor. Engineering problems involving discrete and continuous random variables, probability distribution and density functions, introduction to stochastic processes, correlation functions and power spectral densities.

### **427 Indeterminate Structures (3)**

Prerequisites: Egr 301 and 323. The analysis of indeterminate structures, such as continuous beams, frames, grids, arches, trusses, curved beams, using slope and deflection method, moment distribution method, elastic energy approach. Temperature effect, foundation settlement, secondary stresses. Nonprismatic members.

### **430 Design of Steel Structures (3)**

Prerequisite: Egr 301. Design of steel structures: design of built-up girders, moment connections, light gage metal members. Torsion and unsymmetrical bending of beams, buckling of beams and columns. Design for wind and earthquake forces. The use of the latest AISC design code.

### **432 Aerospace Vehicle Structures (3)**

Prerequisites: Egr 205 and 301. Stress analysis of vehicle components, combined torsion, bending and shear; stability and strength of thin sheet members, compressive strength of sheet stringer panels, interaction curves.

### **433 Aerodynamics (3)**

Prerequisites: Egr 308 and 333. Theory of lift and drag. Thin airfoil theory, lifting lines and lifting surfaces, supersonic airfoils, similarity laws, slender-body theory.

### **434 Direct Energy Conversion (3)**

Prerequisites: Egr 203, 304 and 305. The direct conversion of heat to electrical energy, thermoelectric, thermionic and magnetohydrodynamic devices, solar and fuel cells.

### **437 Propulsion (3)**

Prerequisites: Egr 305 and 316. Analysis of the operation of flight vehicle propulsive systems, rockets, ramjets, turbojets, and turboprops, reciprocating engines with propellers, nuclear propulsion.

### **440 Flight Vehicle Performance (3)**

Prerequisites: Egr 305 and 333. Drag estimation of components of aircraft, aircraft performance, flight testing and performance reduction, introduction to the performance analysis of hovercraft and helicopters.

### **441 Stability and Control of Flight Vehicles (3)**

Prerequisites: Egr 312 and 333. The equations of motion of a rigid flight vehicle, flight path and orientation equations, small disturbance theory, static and dynamic stability, transient response and frequency response.

### **443 Electronic Communication Systems (3)**

Prerequisite: Egr 310. Principles of amplitude, angular and pulse modulation, study of representative communication systems, consideration of the effects of noise on system performance.

### **443L Electronic Communication Systems Laboratory (1)**

Prerequisite: Egr 315; corequisite: Egr 443. Experimental study of detection, modulation and signal generation; VHF and UHF component and system studies. (3 hours laboratory)

### **445 Pulse and Digital Circuits (3)**

Prerequisite: Egr 310. Analysis and design of active and passive circuits for the generation and processing of pulse, digital and switching waveforms.

### **446 Radar Systems (3)**

Prerequisite: Egr 423 and 443. The theory of radar measurements, detection and measurement in search radar, range—and doppler—tracking systems, M T I techniques.



**455A,B Solid-State Electronics (3,3)**

Prerequisites: Egr 303 and 311. Quantum mechanical principle, atomic structure, quantum statistics, crystal structure, energy level in solids, band theory, transport phenomena, conductivity and super conductivity, theory of intrinsic and extrinsic semiconductors, generation and recombination processes. Dielectric theory and materials, magnetization density, diamagnetism, paramagnetism, ferromagnetism, antiferromagnetism. Ferrimagnetism theory and materials. Para and ferromagnetic resonance. Illustrative applications to devices.

**460 Failure of Engineering Materials (3)**

Prerequisites: Egr 202 and 301. Engineering and microscopic approaches, fracture testing, initiation and propagation of cracks, stress concentration, dislocation, fatigue, creep, stress corrosion, cracking and hydrogen embrittlement.

**461 Theory of Dislocations (3)**

Prerequisites: Egr 202 and 308 or senior standing in physics or chemistry. Nature of dislocations and their influence in plastic deformation and fracture of materials, straight dislocations, curved dislocations, interaction of dislocations.

**462L Engineering Metallurgy Laboratory (1)**

Prerequisite: Egr 202; corequisite: Egr 320. Study of microstructure of materials, cold work and heat treatment, use of microscope and sample preparation, fatigue testing and failure analysis. (3 hours laboratory)

**473 Introduction to Nuclear Engineering (3)**

Prerequisite: senior or graduate standing in engineering. An introductory course on the engineering aspects of nuclear energy, nuclear engineering principles and elementary reactor theory, reactor design considerations and certain applications.

**475 Engineering Acoustics (3)**

Prerequisite: senior standing in engineering. An introduction to the theory of sound. The generation, propagation, scattering, and absorption of acoustic waves will be treated mathematically; diffraction of sound and interaction with other forms of radiation.

**491 Analytical Methods in Engineering (3) (Formerly 591)**

Prerequisite: Egr 308 or consent of the instructor. Application of advanced analytical methods in the solution of complicated problems in civil, electrical and mechanical engineering.

**499. Independent Study (1-3)**

Prerequisite: approval of study plan by adviser. Study of specialized topics in engineering selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

**501A,B Microwaves (3,3)**

Prerequisites: Egr 309, 403 and 419. Review of concepts underlying Maxwell's equations, propagation through passive, active, linear, nonlinear, isotropic, anisotropic, homogeneous and inhomogeneous media with and without wave guiding structures. Orthogonal modes in waveguide and cavity resonators, microwave circuit theory, microwave devices. Generation and transmission of microwave energy.

**503 Information Theory and Coding (3)**

Prerequisite: Egr 423. Information measures, probabilistic studies of the transmission and encoding of information, Shannon's fundamental theorems, coding for noisy channels.

### **504 Linear Network Synthesis (3)**

Prerequisites: Egr 309 and 312. Generalized analysis methods of passive networks, modern synthesis procedures for realizing driving-point and transfer-functions of approximation methods in filter design.

### **505 Nonlinear Control Systems (3)**

Prerequisite: Egr 416. Analysis of nonlinear control systems using linearization and perturbation techniques; describing function and phase plane techniques; Lyapunov's stability criterion.

### **506 Advanced Digital Computer Systems (3)**

Prerequisite: Egr 405. High speed arithmetic design, fault tolerance and fault defection, time-sharing, real-time and multi-processor computer systems.

### **507 Statistical Communication Theory (3)**

Prerequisites: Egr 423 and 443. Transmission of random signals through linear systems, noise considerations, detection theory, optimum receivers.

### **508 Intermediate Fluid Mechanics (3)**

Prerequisites: Egr 308 and 333. An investigation of potential flow theory including the study of complex potentials, the Joukowski transformation, sources and sinks, and the theorem of Schwarz and Christoffel.

### **509 Theory of Plates and Shells (3)**

Prerequisites: Egr 301 and 491 or equivalent. Theory of plates bent by transverse loads; applications to circular, rectangular, other shapes. General theory of thin shells; shells of revolution; shells of translation.

### **510 Numerical and Approximate Methods in Structural Mechanics (3)**

Prerequisites: Egr 308 and 205 or equivalent, graduate standing in engineering. The use of finite difference approximation in the analysis of beam on elastic supports, arches, plates, shells, vibration and buckling of beams. Numerical solution using relaxation and iteration method, digital computer programs.

### **511 Advanced Dynamics (3)**

Prerequisite: Egr 312. The dynamics of particles and rigid bodies by the use of the formulations of the laws of mechanics due to Newton, Euler, Lagrange and Hamilton; applications.

### **512 Gyrodynamics (3)**

Prerequisite: Egr 312. Frames of reference, Eulerian angles, spinning disks and rotors, gravity effects, gyroscopes, control of forced and free vibrations.

### **513 Optimal Control Systems (3)**

Prerequisite: Egr 416. Optimal control theory using the calculus of variations, dynamic programming, and Pontryagin's Maximum Principle.

### **514A,B Software Systems Design (3,3)**

Prerequisites: Egr 402 and QM 464 or equivalent. Organization and design of software systems for both concurrent and time shared processes. Design of system components for assembly, compilation and interpretation.

### **515A,B Quantum Electronics (3,3)**

Prerequisites: Egr 403 and 419. Electroluminescence, interaction of radiation and matter, gas lasers, solid state laser, injection lasers, holography, electro-optic effects, non-linear optics, laser systems, noise and applications.



**516 Advanced Principles of Heat Transfer (3)**

Prerequisite: Egr 407. A study of advanced principles in convective and radiation heat transfer. Exact and approximate solutions of thermal boundary layer problems. A study of energy transfer in absorbing and emitting media.

**517 Theory of Inelasticity (3)**

Prerequisites: Egr 412 and 491 or equivalent. General equations of inelastic continua; theory of plasticity; three dimensional yield conditions and flow laws; theory of linear viscoelasticity; applications.

**518 Advanced Fluid Mechanics (3)**

Prerequisite: Egr 508. A study of the foundations of stability theory and the general properties of the Orr-Sommerfeld equation, investigation of turbulent boundary layers, turbulent flow through pipes and free turbulent flows (jet and wakes).

**519 Advanced Structural Mechanics (3)**

Prerequisite: Egr 301, 323 and 491 or equivalent. Use of potential energy principle in structural analysis; direct and indirect method of calculus of variations; nonlinear problems of large deformation; beam on elastic foundations; special topics in structural mechanics.

**520 Incompressible Boundary Layer Theory (3)**

Prerequisites: Egr 333 and 407. A study of the fundamental equation of motion and continuity applied to viscous fluids (Navier-Stokes equations). The development of the boundary layer equations and the study of viscous drag, investigation of boundary layer control theory to reduce viscous drag.

**521A,B Antenna Theory (3,3)**

Prerequisites: Egr 309, 403 and 419. Polarization; radiation patterns; impedance characteristics; plane, cylindrical and spherical waves, electric and magnetic dipoles; wire antennas, traveling wave antennas; broad band antennas; analysis and synthesis of arrays; parabolas; lenses; radomes; feed systems; scattering; multiple beam antennas; synthetic antennas; phased arrays; diffraction; solution by superposition, orthogonal expansion, integral equation and variational techniques; antenna measurements.

**522 Theory of Hydrodynamic Lubrication (3)**

Prerequisites: Egr 333 and 407. Introduction to the theory and design of fluid film bearings.

**523 Solid State Devices and Integrated Circuits (3)**

Prerequisite: Egr 455A. Diodes, bipolar transistors, junction and insulated-gate field effect transistors. Integrated circuit design principles. Bipolar and MOS integrated circuits, monolithic and hybrid integrated circuits.

**524 Advanced Thermodynamics (3)**

Prerequisite: Egr 316. Equilibrium and stability criteria, chemical thermodynamics, multiple reaction systems, ionization, equilibrium composition.

**525 Compressible Boundary Layer Theory (3)**

Prerequisites: Egr 333 and 407. Introduction to the study of compressible viscous flow analysis, the compressible boundary layer solutions.

**530 Advanced Strength of Materials (3)**

Prerequisites: Egr 301 and 308. Energy methods, principle of virtual work, applications to structures, cylinders, shrink fits, curved beams, elastic and inelastic buckling of columns.

### **545 Advanced Structural Design (3)**

Prerequisites: Egr 408 and 491 or equivalent. Analysis and design of thin shell structures; folded plates structures; suspended cable structures.

### **547 Advanced Dynamics of Structures (3)**

Prerequisites: Egr 411 and 491 or equivalent. Vibration of beams, plates and shells. Dynamic response of continuous systems in general. Introduction to random vibrations. Topics in nonlinear vibrations.

### **549 Theory of Elastic Stability (3)**

Prerequisites: Egr 301, 530 and 491 or equivalent. Critical loads of columns, beam columns, plates, shells; lateral stability of beams, torsional buckling of open sections, stability of the frames; dynamic stability of elastic systems.

### **553A,B Plasma Dynamics (3,3)**

Prerequisites: Egr 403 and 419. Orbit theory, collision theory, transport properties, equilibrium, oscillations, fluctuations, thermionic energy conversion, plasma containment, instabilities, fusion power, plasma propulsion, hypersonics, plasma sheaths and wakes, scattering from plasmas, wave propagation through plasmas, energy conversion.

### **554 Hybrid Computation (3)**

Prerequisites: Egr 403 and 404. Hybrid analog-digital computer systems, A/D and D/A converters and other linkage equipment, application of hybrid computers to solving partial differential equations and modeling, error analysis.

### **555 Electromagnetic Field Theory (3)**

Prerequisite: Egr 419. Relativistic electrodynamics, retarded potentials, radiation from arbitrarily moving charges, Cerenkov radiation, cyclotron radiation, propagation in dispersive media, space charge dynamics, advanced boundary value problems.

### **557 Sampled-Data Systems (3)**

Prerequisite: Egr 416. Analysis of sampled-data and digital control systems, using Z-transforms and state-variable methods, consideration of stability.

### **559 Active Network Synthesis (3)**

Prerequisite: Egr 504. Active devices as network elements, analysis of active networks with controlled sources, scattering parameters, sensitivity, realizability conditions.

### **569 Orbital Mechanics (3)**

Prerequisite: Egr 410. The three-body problem, geometry of orbits, transfers, perturbation, stability and oscillation, rendezvous.

### **570 Seminar in Electrical Engineering (1-3)**

Prerequisites: graduate standing and 12 units of graduate coursework. Special topics and current developments of primary interest in the field of electrical engineering. This course, with different content, may be retaken for additional credit.

### **573 Aerospace Guidance Systems (3)**

Prerequisite: Egr 410. Principles of inertial, stellar-inertial and doppler-inertial guidance and control systems; mechanization equations; theory and error analyses of inertial and optical sensors, gyro-stabilized platforms and complete navigation systems; theory and mechanization of space vehicle navigation, guidance and control systems.



**575 Kinetic Theory and Statistical Thermodynamics (3)**

Prerequisite: Egr 316. Statistical study of ideal gases, kinetic theory, statistical mechanics, electron gas, thermionic emission, photon and phonon gases.

**577 Reliability Analysis of Structures (3)**

Prerequisites: Egr 323 and 423. Application of statistics and theory of probability to the problems of safety of structures.

**581 Linear Systems Engineering (3)**

Prerequisites: Egr 312 and graduate standing. Classification of systems, principles of time domain analysis, matrices, linear spaces, analog simulation, state space, matrix representation of state equations, review of the Laplace transform systems with random signals, stability of systems.

**582 Estimation Theory in Systems Engineering (3)**

Prerequisites: Egr 423 and 581. Linear estimation theory, Gauss-Markoff, least squares, Kalman, maximum likelihood; Kalman estimation for discrete dynamic systems, smoothing, filtering, and prediction, Kalman estimation for continuous dynamic systems.

**585 Optimization Techniques in Systems Engineering (3)**

Prerequisite: Egr 403. Optimization of functions of several variables, Lagrange multipliers, gradient techniques, linear programming, and the simplex method, non-linear and dynamic programming.

**587 Operational Analysis Techniques in Systems Engineering (3)**

Prerequisites: Egr 423 and 585. Operational research models; applications of probability theory to reliability, quality control, waiting line theory, Markov chains; Monte Carlo methods.

**592 Advanced Engineering Analysis (3)**

Prerequisite: Egr 312 or equivalent. Ordinary differential equations with variable coefficients, Bessel and other functions, engineering application of partial differential equations in elasticity, vibrations, heat and electrical conduction, fluid mechanics, electromagnetic waves; variational method and optimization of functions with multiple variables.

**596A,B,C,D Special Topics in Engineering (1-3)**

Prerequisite: corresponding general courses in same subject area. Selected topics in specialized areas of engineering covering recent developments.

**597 Graduate Projects (1-6)**

Prerequisite: permission of adviser.

**598 Thesis (1-6)**

Prerequisite: permission of adviser.

**599 Independent Graduate Research (1-3)**

Prerequisite: classified graduate status. Open to graduate students only by permission of Engineering School Graduate Committee. May be repeated for credit only upon approval of this committee.

**701A,B Review of Applied Mathematics for Engineers (3,3)**

Review of elementary calculus, ordinary differential equations, Laplace transforms, vector analysis, Fourier series, matrices, and partial differential equations.

# DEPARTMENT OF ETHNIC STUDIES

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## **101 Introduction to Ethnic Studies (3)**

A survey of the basic concepts and problems involved in an examination of the perspective through which black and brown people have come to see themselves in terms of their own heroes, culture and contributions to societies in which they live and world society in general.

## **102 Communication Skills (3)**

A methodical presentation of the basic communication skills emphasizing writing and communication skills stressing the use of idioms, proper pronunciation, intonation and correct English patterns of thought.

## **103 Communication Skills (3)**

Prerequisite: Ethnic Studies 102 or consent of the department. A methodical presentation of the basic communication skills emphasizing writing and communication skills stressing the use of idioms, proper pronunciation, intonation, and correct English patterns of thought.

## **213 The Spanish Language in the United States (3)**

A methodical presentation of the Spanish language as it is spoken in the United States today. The first part of the course is designed to improve the basic communication skills of everyday Spanish to students who are from Spanish speaking backgrounds; emphasis will be placed on vocabulary building, syntactical analysis and conversation. The second part emphasizes written expression. This course is designed for Mexican-Americans, but it is not restricted to them.

## **220 Mexican Heritage (3)**

Introduction to the basic characteristics of the Mexican and especially the Mexican-American society and culture and its ramifications in the United States today. The survey course covers the period of 1519 to the present day. A special emphasis is placed on the arts, literature and history of Mexico and the Mexican-American in the United States.

## **230 The American Indian (3)**

A study of the American Indian experience in the United States as seen from the Indian's point of view in comparison with that of the white man. Special attention will be focussed on the problems of American Indians today.

## **231 Survey of Afro-American Literature (3)**

A study of the literary contributions to American culture by black Americans from slavery to the present. Emphasis will be on contemporary black writers and recurring themes of protest and the quest for identity.

## **237 Mexican and Mexican-American Literature in Translation (3)**

A survey course in Mexican and Mexican-American literature in English. Special emphasis will be given to presenting the point of view of the Mexican-American. Panel discussions will emphasize the exposure of our students to the ideas of the Mexican and Mexican-American literature as seen by the artistic eyes of the Mexican-American.

## **240 Black History: Black and White Versions (3)**

A comparative analysis of the history of the black man in using black and white historical writings.



**250 Cultural Scars of Oppression (3)**

An examination of the process of socialization of the black and brown man in America and its imprints upon his psyche.

**260 Cultural Identity of the Contemporary Mexican and Black Man (3)**

An examination and study of the "identity crisis" or lack of it in young Mexican and black individuals in the United States. An in depth analysis of the changing points of view of the Mexican toward acculturation.

**301 Introduction to Afro-American Culture (3)**

An introduction to Afro-American culture. A survey of African cultural characteristics in the New World, as they relate to contemporary events, including art, ideas, dance and literature.

**302 Ancient Mexican Culture (3)**

A historical and cultural survey of the principal pre-Columbian cultures of Mexico and their significance for Mexican society.

**303 Ancient and Modern African Culture (3)**

Prerequisite: limited to advanced sophomores and upper division students. This course will attempt a survey of the African cultures (specifically West African contrasted with East African) before the period of exploration and after colonization. A look at the present-day American black culture will try to estimate the carry-over of cultures.

**305 The Chicano Family (3)**

The Chicano family development as an American social institution. Historical and cross-cultural perspectives. The socio and psycho dynamics of the Chicano family.

**306 Barrio Studies (3)**

Prerequisites: Ethnic Studies 101 and/or 220 or the consent of the professor. Students are given classroom instruction covering the major characteristics of the barrio and are then supervised in their fieldwork in the local barrios. An analysis of the barrio or agency will be made after fieldwork is completed. (2 hours lecture, 3 hours fieldwork)

**307 Barrio Studies (3)**

Prerequisite: Ethnic Studies 306. Students are given classroom instruction covering the major characteristics of the barrio and are then supervised in their fieldwork in the local barrios. An analysis of the barrio or agency will be made after fieldwork is completed. (2 hours lecture, 3 hours fieldwork)

**309 The Black Family (3)**

A study of the American social conditions that shaped the black family from the African cultural patterns that were destroyed during slavery to the family that exists today. Special attention will be given to the roles of poverty, racism and discrimination.

**345 Europe, Africa and America in Modern Western Civilization (3)**

A historical examination of the interrelationships and interactions of European, African and American cultures. Particular emphasis will be placed upon the mutual effects of slavery, colonization and self-determination upon various cultures.

**430 Canción de la Raza (3)**

Prerequisite: reading knowledge of Spanish. Survey and analysis of the Nahuatl, Mexican and Mexican-American literature from the pre-Columbian period to the

present. The latter part of the course will focus on contemporary Mexican-American writers.

**499 Independent Study (1-3)**

Prerequisites: senior level or acceptance of the subject by the department chairman and the professor(s) in charge of directing the study. An opportunity to do independent study under the guidance of the Ethnic Studies Department, of a subject of special interest to the student.



# SCHOOL OF INTERDISCIPLINARY STUDIES

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## AMERICAN STUDIES

### **201 Introduction to American Studies (3)**

With the concept of culture as a unifying principle, this course will focus on four separate time periods in order to provide the framework for an understanding of American civilization. Several different kinds of documents will be used to illustrate the nature and advantages of an interdisciplinary approach.

### **301 The American Character (3)**

Prerequisite: American Studies 201 or History 170A or B or consent of instructor. An intensive examination of the changing national character. Reading assignments will reflect an interdisciplinary approach, ranging from poetry to sociology. Some attention will be paid to the American Negro and Indian in addition to the transplanted European, and foreign perspectives on the American will be considered.

### **350 Seminar in Theory and Method of American Studies (3)**

Prerequisites: American Studies 201 and 301; or History 170A or B; or consent of the instructor. This course is designed to provide the American studies major with an understanding and appreciation of methodology, theories of society and images of man as they effect American studies contributions to scholarship.

### **401 Proseminar in American Studies (3)**

Prerequisites: American Studies 201 and 301; or History 170A or B; or consent of the instructor. The proseminar is designed to permit students to examine the relationship between theory and application. An emphasis will be placed on analytic readings and research. Topics will be announced each semester. Some examples might be: The novelist as historian or the concept of postindustrial society.

### **402 Religion in the Development of American Society (3)**

Prerequisites: American Studies 201 and 301; or History 170A or B; or consent of the instructor. An intensive study of the changing role of religion in shaping, reflecting, and challenging dominant American values and institutions. The course will focus on the 19th and 20th centuries, although some attention will be paid to the colonial period.

### **499 Independent Study (1-3)**

Supervised research projects in American studies to be taken with the consent of the instructor and the program coordinator. May be repeated for credit.

## INTERDISCIPLINARY CENTER

(Offered by the Center)

### **201A,B Honors Colloquium: Contemporary Civilization (3)**

An interdisciplinary program to provide general education requirements for Honors students. The course is organized around six main themes: the "Death of God", the loss of a world picture, what is history? the triumph of the material, the triumph of the therapeutic, and understanding media. Relevant readings in Nietzsche, Camus, Einstein, Russell, Whitehead, Toynbee, Popper, Marx, Freud, McLuhan, et al. Admission by consent of the instructor or the Honors Committee.

## Interdisciplinary Center

### 301 Psychological Approaches to Literature (3)

A development of the work of I. A. Richards begun in his *Practical Criticism*. The course's primary focus is on the psychological experimentation relevant to understanding errors of interpretation, particularly interpretation of literary texts. Several experimental approaches to understanding errors in interpretation will be described and illustrated, including those of Piaget (errors of the child), Asch (structural factors of personality), and Adorno. Current therapeutic techniques for the development of attitude change will be discussed.

### 303 Yoga (3)

A study of Yoga: its theories, literature, and practices; some methods of meditation taught; its relevance for today's world.

### 310 Human Sexuality (3)

The concept of sexuality will be explored as it relates to man, including data regarding sexual practices, their biological and social implications, and their relationship to population and the survival of the species.

### 315 Jazz: Past, Present and Future (3)

Jazz—its primitive and European roots; cross-cultural description of improvisation. Lectures, demonstrations, some concerts.

### 318 Character and Conflict: The Struggle for Autonomy (3)

An exploration—via lectures, discussion and group encounter—into the problems and techniques of resolving the conflicts created by the individual's struggle to achieve and maintain personal autonomy while living successfully in an automated world. Topics for exploration include the changing concepts of masculinity and femininity, sexual morality, encountering others.

### 351 Poverty in America (3)

A study of the extent, causes, consequences and possible cures of poverty in modern America. Poverty will be treated as, among other things, a political issue, and spokesmen from various political groups will lecture on their organization's approach to the poverty question. Lectures, discussion, some documentary films.

### 402 Art, Literature and the Development of Consciousness (3)

An application of theories of consciousness, particularly existential and Jungian, to poems, paintings and musical compositions. Intensive encounters between the individual and the art work; opportunities at checking one's own responses against those of others and exploring the significance of the differences. (Same as Comparative Literature 402)

### 403 The Quest for Self: East and West (3)

A comparative study of quest narratives which exemplify the Eastern and Western man's search for self-identity and fulfillment. Religious, psychological and literary texts will be used to help illuminate the comparison. (Same as Comparative Literature 403 and Anthropology 416)

### 404 The Nature of Love: Plato to Joyce (3)

An examination of the various dimensions of love as found in notable philosophical, psychological, and literary works. (Same as Comparative Literature 404)

### 405 Psychoanalysis and Drama (3)

A detailed study of Freud's topographic and structural theories and their recent elaborations; the application of theory to selected readings in dramatic literature mainly, but also to some fiction, poetry, and films. (Same as Comparative Literature 405)



**410 Self-Actualization Group: Experiences in Human Growth (3)**

Prerequisite: consent of instructor. Intensive small group experiences will assist each individual in unleashing his own growth potential and accelerating his own developmental processes. Self-actualization and related existential and humanistic concepts will be explored in depth, using recently developed methods. Lectures, individual assignments supplement the class experience. Pass/no pass grading.

**411 Group Process and Leadership (3)**

The impact of the individual personality on other persons in a group and what takes place in a group of people; the structure and process of a group; the influence of leadership. The course will provide learning experiences involving theories and concepts of those forces operating in a group situation, as well as a first-hand experiencing of one's own self in a group; feedback on how others see one in a group relation; and involvement in group dynamics.

**421 Great 19th Century Revolutionaries: Darwin, Marx, Freud (3)**

The course will consider the three great 19th century revolutionaries, Darwin, Marx and Freud, with a purpose of discovering the force of their impact on 20th century society. Their major literary works will be discussed and the students will study their biographies to determine why they became revolutionaries.

**422 Jewish and Comparative Mysticism (3)**

A description and analysis of Jewish mysticism, and its comparison with other systems of mysticism from different cultures. (Same as Anthropology 422)

**451 Philosophical Backgrounds of Modern Literature (3)**

The connection between representative writers and such thinkers and philosophers as Freud, Spengler, Schopenhauer, Nietzsche, and Kierkegaard. (Same as English 451 and Philosophy 451)

**452 Student Protest (3)**

The dynamics of student protest with major attention given to contemporary activities in the United States.

**470 Seminar: Interdisciplinary Issues (3)**

Concentrated study each year of a different key issue approached from an interdisciplinary view and frequently combined with two or three courses in other departments to form a nine-hour block. In 1970-71, Contemporary Values.

**499 Independent Study (1-3)**

Supervised research projects to be taken with the consent of the instructor and the program coordinator. May be repeated for credit.

**799 Independent Study (1-3)**

Supervised research projects to be taken with the consent of the instructor and the program coordinator. May be repeated for credit.

**LATIN AMERICAN STUDIES**

All courses within the Latin American studies program originate in other departments within the college. Students should refer to the department originating the course for the description.

**Anthropology**

**322 Peoples of Mesoamerica (3)**

**325 Peoples of South America (3)**

## **Linguistics**

### **Geography**

- 434 Geography of Latin America (3)**
- 464 Man and Geographic Relationships in Latin America (3)**

### **History**

- 350A Colonial Latin America (3)**
- 350B Republican Latin America (3)**
- 450 Change in Contemporary Latin America (3)**
- 453 History of Mexico (3)**
- 454 History of Argentina, Brazil, Chile (3)**

### **Political Science**

- 437 Government and Politics—Latin America (3)**
- 438 Latin American Interest Groups (3)**
- 463 International Relations and Problems of Latin America (3)**

### **Portuguese**

- 315 Introduction to Brazilian Culture and Civilization (3)**
- 325 Contemporary Brazilian Civilization (3)**

### **Sociology**

- 460 Comparative Institutions: Latin America (3)**

### **Spanish**

- 316 Introduction to Spanish American Civilization (3)**
- 440 Spanish American Literature from The Conquest to 1888 (3)**
- 441 Spanish American Literature from Modernismo to the Present (3)**

### **Economics**

- 330 Comparative Economic Systems (3)**
- 333 Economic Development: Analysis and Case Studies (3)**
- 411 International Trade (3)**

## **LINGUISTICS**

- 341 Phonetics (3)**  
(Same as Speech Communication 341, Theatre 341)
- 375 Philosophy of Language (3)**  
(Same as Philosophy 375)
- 402 Phonetic Analysis of Speech (3)**  
(Same as Speech Communication 402)
- 404 General Semantics (3)**  
(Same as Speech Communication 404)



**406 Descriptive Linguistics (3)**

Introduction to the nature of human linguistic behavior. Phonological, morphological, and syntactic structures of languages are examined through the use of techniques developed for the description of such structures.

**410 Language and Culture (3)**

(Same as Anthropology 410)

**411 Bilingualism (3)**

The study of the personal and social development of non-English speaking communities as reflected in the conflict between the language of the home and the language of the community. Special emphasis is placed on the Spanish-speaking communities of California and on the need for and means of achieving bilingual educational programs for the maintenance of the Hispanic cultural heritage in the American environment.

**412 Sociolinguistics (3)**

The study of social dialects in relation to the surrounding communities, with special attention to black dialects in America. Topics include social stratification, acculturation, language maintenance, standardization, language planning and language change.

**490 Linguistics in Relation to Other Disciplines (1-4)**

The mutually contributing relationships between linguistics and the social and natural sciences, literature, music, psychology, philosophy, mathematics, and language pedagogy. To be taken for one unit of credit for four semesters by majors in linguistics. Open to all upper division students.

**499 Independent Study (1-3)**

Supervised projects in linguistics to be taken with the consent of the Department Chairman as a means of meeting special curricular problems. Selection of topic to be studied varies with needs of the students enrolled. May be repeated for credit.

**501 Research Methods and Bibliography (1)**

Prerequisites: graduate standing and Linguistics 406, or equivalent. Introduction to principal books, periodicals, and collections in general linguistics, specific languages and related fields; techniques of preparing research papers and field reports in linguistics.

**504 Graduate Seminar: General Semantics (3)**

(Same as Speech Communication 504)

**505 Seminar: Phonetics and Phonemics (3)**

Prerequisites: Anthropology or Linguistics 406 or consent of instructor. Study of various kinds of phonological systems that occur in languages. Emphasis on practical problems in the phonetic and phonemic analysis of selected language data. (Same as Anthropology 505)

**507 Seminar: Morphosyntax (3)**

Prerequisites: Anthropology or Linguistics 406 or consent of instructor. The study of word formation and sentence construction in a variety of languages. Application of immediate constituent, tagmemic, and transformational analysis to selected linguistic data. (Same as Anthropology 507)

**508 Theories of Syntax (3)**

Prerequisites: Linguistics 507 or consent of instructor. Intensive and practical study of contemporary theories of grammar, with special emphasis on transformational, generative, logical and electromechanical bases and techniques of utterance analysis.

## Religious Studies

### 515 Psycholinguistics (3)

Prerequisite: Linguistics 406 or equivalent. An examination of the behavioral, conceptual, motivational and social aspects of language, emphasizing recent developments in information theory, behavioral theory, and linguistic theory as applied to human communication. Linguistic ontogeny, non-verbal communication, and communicative failure will also be discussed.

### 530 Historical Linguistics (3)

Prerequisites: Linguistics 406, its equivalent, or consent of the instructor. The history of language, also including principles and techniques for the historical study and classification of individual languages and language families, writing systems, lexicostatistical methods, and linguistic geography.

### 540 Graduate Seminar: Experimental Phonetics (3)

(Same as Speech Communication 540)

### 584 Linguistics and Reading (3)

(Same as Education 584)

### 592 Field Methods (3)

Prerequisites: Linguistics 505 and 507 or consent of instructor. Methods of analysis and description of language structures. Data elicited from informants will be analyzed and described. Controlled study of a live informant's language.

### 597 Project (2)

The preparation and completion of an approved project.

### 599 Independent Graduate Research (1-3)

Prerequisites: graduate standing and consent to the chairman. May be repeated for credit.

## RELIGIOUS STUDIES

### 303 Rabbinic Literature: The Writings of Law and Lore (3)

The historical, sociological and cultural background of the beginnings of the Talmud. The Talmud as one basis of modern ethics. Special stress will be laid on: man as a moral being, free will, labor, justice, truth and truthfulness, peace, charity, parents and children, country and community.

### 304 Religion and the Cultural Crisis (3)

The role of religion in contemporary cultural crises and in history with such topics as the development of the family unit, sexual relationships and forms of worship.

### 305 Hebrew Prophets (3)

Lectures and seminar discussions dealing with the cultural, historical, values of and contemporary application of Isaiah, Second Isaiah, Jeremiah, Ezekiel and the minor prophets. (Same as Comparative Literature 305)

### 306 Wisdom Literature (3)

The interpretation of values in Proverbs, Job, Ecclesiastes, Ecclesiasticus, the Wisdom of Solomon, Egyptian and Mesopotamian Wisdom writers as applied to the modern world.

### 307 Dimensions of Religion (3)

The great themes of religious thought viewed objectively and subjectively in history and in the present day are studied as a basis for understanding religious relevance and application. Seminar and discussion presentation.



**308 Judaism: From the Beginning to the Middle Ages (3)**

The historical role of the religion of the Jews will be studied and the distinction will be drawn between the various forms of contemporary Judaism: Orthodox, Conservative, and Reformed from the beginning to the Middle Ages.

**309 Judaism: From the Middle Ages to the Present (3)**

The history and contemporary social significance of the religion of the Jews from the Middle Ages to the present, with emphasis upon contemporary Judaism.

**310 History and Development of Christianity (3)**

An introduction to the Jewish background of Christianity, the person and work of Jesus, and the development of the church from the days of the apostles down to the present ecumenical era of Christendom.

**406 Anxiety, Guilt and Freedom (3)**

The distinction between psychiatry and religious methods of understanding basic human emotions will be examined together with an analysis of terms such as "authority", "God", "faith", "forgiveness", "sin", "error", "repentance", "sex", and "absolution".

**410 Theology and Contemporary Life (3)**

Prerequisites: Religious Studies 310 or consent of the instructor. An exploration of major theological issues, and their relevance for contemporary social problems: God, nature, man, sin, revelation, reconciliation; culture and creativity, marriage and divorce, poverty, war, race, international relations, political and economic authoritarianisms.

**420 The Worlds of Martin Buber, "The Philosophy and Theology of Martin Buber" (3)**

A detailed and critical study of Buber's views concerning relationship of man to God and man to man.

**425 Religion in Western Culture (3)**

An examination of groups and individuals whose writings and ideas have been formative in the development of Western culture from classic times to the present.

**485 Major Contemporary Religious Thinkers (3)**

Prerequisites: Philosophy 110 or its equivalent. A detailed and critical study of religious thinkers contemporary to the modern world. For 1970-71, the topic will be *The Several Worlds of Abraham Joshua Heschel*.

**486 Major Contemporary Religious Topics (3)**

Prerequisites: Philosophy 110 or its equivalent. An in-depth inquiry into modern topics of a religious nature related to social, political, psychological trends.

**499 Independent Study (1-3)**

Supervised research projects in religious studies to be taken with the consent of the instructor and the program coordinator. May be repeated for credit.

**RUSSIAN AREA STUDIES**

All courses within the Russian area studies program originate in other departments within the college. Students should refer to the department originating the course for description.

**Comparative Literature**

**373 Masters of Russian Literature (3)**

## Social Sciences

374 Contemporary Russian Literature (3)

499 Independent Study (1-3)

### Economics

330 Comparative Economic Systems (3)

331 The Soviet Economy (3)

499 Independent Study (1-3)

### Geography

366 Geography of the Soviet Union (3)

499 Independent Study (1-3)

### History

434A Russia to 1890 (3)

434B Russian Revolution and the Soviet Regime (3)

491 Proseminar (3)

499 Independent Study (1-3)

### Political Science

430 Government and Politics of the U.S.S.R. (3)

433 Government and Politics of Authoritarian Systems (3)

443 Theory and Philosophy of Marxism (3)

454 Soviet Union and World Affairs (3)

499 Independent Study (3)

### Foreign Language: Russian

303 Readings in Scientific Russian (3)

315 Introduction to Russian Civilization (3)

317 Advanced Conversation and Composition (3)

375 Introduction to Literary Form (3)

400 Russian for Advanced Students and Teachers (3)

431 Early Russian Literature (3)

441 Tolstoy and Dostoevsky (3)

451 The Golden Age of Russian Literature (3)

461 Russian Literature from 1917 (3)

499 Independent Study (1-3)

## SOCIAL SCIENCES

500 The Social Sciences in the Modern World: Major Findings, Concepts, Theories (3)

A seminar providing a philosophical and theoretical basis for graduate work in the area of social science. It will focus on the interrelationships which exist among the various social sciences as they relate to man in his social, physical, and political environment.



**501 The Social Sciences in the Modern World: Basic Skills and Human Dimensions (3)**

Analytical comparison of the historical, humanistic, and scientific methodologies in the history of the social sciences. This seminar will also deal with the contemporary trends in the social sciences methods.

**597 Project (3)**

Prerequisite: consent of the instructor.

**599 Independent Graduate Research (3)**

Open to graduate students in social science with the consent of the program adviser or coordinator. May be repeated for credit.

**TECHNOLOGICAL STUDIES**

**100 Introduction to Technological Studies (3)**

An examination, in survey form, of questions about the development of human technologies. Examination of the various theories and methodologies which can be applied to the study of the role of technology in the process of cultural and social development.

**110A Man-made World (3)**

(Same as Engineering 110A)

**110B Man-made World (3)**

(Same as Engineering 110B)

**111A Laboratory: Man-made World (1)**

(Same as Engineering 111A)

**111B Laboratory: Man-made World (1)**

(Same as Engineering 111B)

**201 Society and Technology (3)**

The analysis of the relationship between technological development and various aspects of social reality.

**464 Technology and Ideology (3)**

Examination of the development and meaning of contemporary technological society: technocracy, technostructure, cybernetics and cyberculture, and associated changes in ideology.

(Sponsored by the Technological Studies Program)

**Economics**

**370 Economics of Research and Development and Technological Change (3)**

**Engineering**

**100A,B Introduction to Analysis (3)**

**101 Introduction to Engineering (1)**

**417 Engineering Economy (3)**

**423 Engineering Probability and Statistics (3)**

**History**

**491 Proseminar in Special Historical Topics (3)**

Topic: The American Response to Technological Development

Examination of the historical consequences of technological change and de-

## Technological Studies

velopment for American society including the reception of technological images, symbols, and myths into the culture; the adaptation of institutions to imperative needs for technological innovation; and the changing status of technologists in American society with primary focus on the late 19th and 20th centuries.

### Interdisciplinary Center

#### 499 Independent Study (1-3)

Through independent study students can pursue topics or problems of special interest beyond the scope of regular courses under the supervision of a faculty adviser. The work is of a research or creative nature, and normally culminates in a paper, project, comprehensive examination or performance. Before registering, the student must get his topic approved by the professor who will be supervising independent study. Independent study courses may be repeated. A student wishing to enroll in more than six units of independent study in any one semester must have the approval of his major adviser and of the chairman of the department(s) in which the independent study is to be conducted.

#### 799 Independent Study (1-3)

A survey of the problems and prospects for technology and impacts of technology on society. The course brings together lecturers from several disciplines included in the sciences and humanities. The seminar approach is used where possible. The course will include lectures on such topics as the impact of technology on urban life and development; education in the technological society; technology, society, and central planning; the military-industrial-research complex and the new industrial state; the American challenge in international economic affairs; the "new economics," technology, economic growth, and the social order; technology and ideology; the American response to technological change; development of science and technology and cultural change; evolution of scientific ideas; and economics of research and development and technological change.

### Management

#### 545 Research and Development Project Management (3)

### Science Education

#### 461 Development of Science and Technology (3)

### Science and Mathematics Education

#### 470 Evolution of Scientific Ideas (3)



# SCHOOL OF LETTERS, ARTS AND SCIENCES

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## ANTHROPOLOGY

### **201 Introduction to Physical Anthropology (3)**

Man in biological and evolutionary perspective. Methods, findings, concepts, and issues in the study of primates, fossil men, and races.

### **202 Introduction to Cultural Anthropology (3)**

The nature of culture and its significance for man. Uniformities and variations in human cultures. Cultural analyses of major institutional forms such as the family, economy, government, religion and art with an emphasis on preliterate peoples. A consideration of central problems of cultural comparison and interpretation.

### **203 Introduction to Archaeology (3)**

Relationship of archaeology, prehistory, and culture history; field methods and analysis of archaeological data. A survey of world culture history, from Pleistocene beginnings to the threshold of civilization; and introduction to the world's early centers of civilization.

### **301 World Ethnography (3)**

Prerequisite: Anthropology 202 or consent of instructor. A general survey of the peoples of the world and a study of representative cultures with special reference to their situation in the history and geography of the world.

### **313 Human Genetics (3)**

(Same as Biological Science 313)

### **315 Jazz: Past, Present and Future (3)**

(Same as Interdisciplinary Center 315)

### **321 The American Indian (3)**

Prerequisite: Anthropology 202 or consent of instructor. A cultural survey of North American Indians north of Mexico; origins, languages, culture areas, cultural history; the impact of European contacts.

### **322 Peoples of Mesoamerica (3)**

Prerequisite: Anthropology 202 or consent of instructor. General survey of the culture history and ethnology of the Mesoamerican culture-area, with treatment of each of the principal subareas in depth. Analysis of both the native civilizations of Mesoamerica and the present-day ethnological societies, emphasizing sociopolitical organization, economic systems and religious systems.

### **325 Peoples of South America (3)**

Prerequisite: Anthropology 202 or consent of instructor. A cultural survey of Central and South America. Description of selected cultures representative of different cultural areas before and after contacts with Western countries.

### **328 Peoples of Africa (3)**

Prerequisite: Anthropology 202 or consent of instructor. A cultural survey of Africa. Description of selected cultures representative of different cultural areas before and after contacts with Western and Asian countries.

## **Anthropology**

### **340 Aboriginal Peoples of Asia (3)**

Prerequisite: Anthropology 202 or consent of instructor. Survey of cultural areas outside the centers of high civilizations of China and Japan. Emphasis on steppe-nomadism, Siberia, and ethnic splinter groups between India and the Philippines, with focus upon their influence on the cultural centers and vice versa. Ecology, migration routes, social organization, religious systems.

### **341 Peoples of China and Japan (3)**

Prerequisite: Anthropology 202 or consent of instructor. Description and analysis of the religious, social and technological systems of the civilizations of Japan and China, as well as the impact of nomadic herders of North and Central Asia upon those centers, from an anthropological point of view. Also, a comparison of community studies on these regions.

### **345 Peoples of the Middle East (3)**

Prerequisite: Anthropology 202 or consent of instructor. A cultural survey of the Middle East with descriptions of selected cultures (Arab urban, nomadic, Jewish, Turk, Berber, Kurd).

### **347 Peoples of the Pacific (3)**

Prerequisite: Anthropology 202 or consent of instructor. A survey of the native peoples and cultures of the Pacific Islands, including Australia; the social and cultural patterns of representative cultures of various areas; special ethnological and theoretical problems.

### **350 Peoples of Europe (3)**

Prerequisite: Anthropology 202 or consent of instructor. Representative groups considered in modern and historical perspective, stressing especially rural-urban relationships and the dynamics of change.

### **360 Contemporary American Culture (3)**

Prerequisite: Anthropology 202 or consent of instructor. Application of anthropological methods, categories of analysis, and types of interpretation to American culture. Survey and critique of selected community studies and other kinds of relevant research.

### **361 Afro-American Culture (3)**

Prerequisite: Anthropology 202 or consent of instructor. An introduction to African culture. A survey of African cultural characteristics in the New World, as they relate to contemporary events, including art, ideas, dance and literature.

### **401 Ethnographic Field Methods (3)**

Prerequisites: Anthropology 202 and 6 additional units of anthropology or consent of instructor. Anthropological field research by students on various problems using participant observation techniques.

### **403 Archaeological Fieldwork (3)**

Prerequisites: Anthropology 202 or 203 and consent of instructor. Participation in the excavation of a local archaeological site. Archaeological mapping, photography and recording. Laboratory methods of cataloging, preservation, description and interpretation of archaeological materials. Saturday field sessions. (6 hours fieldwork per week).

### **406 Descriptive Linguistics (3)**

(Same as Linguistics 406)



**410 Language and Culture (3)**

Prerequisite: Anthropology 202 or consent of instructor. The study of language as a factor in culture. Introduction to anthropological linguistics. Trends in the study of language and culture. (Same as Linguistics 410)

**411 Folklore (3)**

Prerequisite: Anthropology 202 or consent of instructor. An introduction to the study of folktales, myths, legends, proverbs, riddles and other forms of the verbal traditions of peoples. Major concepts and theories and research methods in the study of folklore.

**413 Ethnological Music (3)**

Music, musicmaking, and musicians in various nonliterate societies.

**415 Culture and Personality: Psychological Anthropology (3)**

Prerequisites: Anthropology 202 and Psychology 331 or 351 or Sociology 341 or consent of instructor. Comparative study of the relationship between the individual and his culture. Child training in nonwestern cultures. Survey of important concepts, studies, and research techniques. Changing viewpoints and new directions in culture-personality studies.

**416 The Quest for Self: East and West (3)**

(Same as Interdisciplinary Center 403)

**420 Primitive Value Systems (3)**

Prerequisite: Anthropology 202 or consent of instructor. Study of what properly is considered "common sense" in the everyday life of people living within differing sociocultural environments.

**421 Anthropology of Religion (3)**

Prerequisite: Anthropology 202 or consent of instructor. Examination of beliefs and practices in the full human variation of religious phenomena, but with an emphasis on primitive religions. The forms, functions, structures, symbolism, and history and evolution of man's religious systems. Analysis of major categories, concepts, and theoretical models used by anthropologists in the study of religion.

**422 Jewish and Comparative Mysticism (3)**

(Same as Interdisciplinary Center 422)

**423 Comparative Aesthetics and Symbolism (3)**

An analysis of the metaphysical and mystical systems underlying the "grammars" of the art, poetry, languages, myths, music, and rituals of various nonliterate and literate peoples and their development into creative experiences.

**424 Psychedelic Anthropology (3)**

A study of states expanded consciousness. It is a synthesis of anthropology, sociology, philosophy, psychology, psychoanalysis, mythology, mysticism, esoteric systems and the religious traditions of East and West, including Yoga and the Vedanta, Zen Buddhism, Taoism, Islam, ancient and primitive religions, Judaism and Christianity.

**425 Anthropology of Law and Government (3)**

Prerequisite: Anthropology 202 or consent of instructor. Sources of law-government in primitive societies; the cultural background of law; the functions and development of law and government in primitive politics; transitions to and comparisons with classical and modern legal and political systems.

# **Anthropology**

## **428 Social Anthropology (3)**

Prerequisite: Anthropology 202 or consent of instructor. A study of the social organization of preindustrial societies; religious, political and economic institutions; status and value systems; conditions and theories of change.

## **429 Kinship and Social Organization (3)**

Prerequisites: Anthropology 202 and 428 or consent of instructor. Kinship systems in primitive society and their significance in the organization of social life. Theories of kinship, marriage regulations, and kinship role patterns. Analysis of the formal properties of diversely structured kinship systems and techniques of kinship and structural analysis.

## **430 Economic Anthropology (3)**

Prerequisite: Anthropology 202 or consent of instructor. Analysis of anthropological concepts of economy, ecology, and technology; relationship between habitat, economy, and culture. A survey of the different types of economic systems found throughout the world; outline of the economic development of mankind.

## **440 Human Evolution (3)**

Prerequisite: Anthropology 201. Advanced human evolution; human physiological and related cultural evolution as displayed in the fossil record, adaptations, problems in human evolution.

## **441 Human Races (3)**

Prerequisite: Anthropology 201. An historical study of racial classifications; analysis of processes of race formation; analysis of the concept of race and racism; study of variation in modern populations.

## **450 Culture and Education (3)**

Prerequisite: Anthropology 202 or Education 301 or consent of instructor. The transmission of values, implicit cultural assumptions, and the patterning of education in cross-cultural perspective, with special attention to American culture and development problems.

## **453 Cultural Ecology (3)**

(Same as Geography 453)

## **460 Culture Change (3)**

Prerequisite: Anthropology 202 and 301 or consent of instructor. Interrelations between cultural, social and psychological processes in the dynamics of culture growth and change. Impact of western technology on tribal and peasant societies. Anthropological contributions to the planning of directed sociocultural change in selected areas.

## **470 Philosophical and Behavioral Foundations of Anthropology (3)**

Prerequisite: Anthropology 202 and open to lower division students with the consent of the instructor. Consideration of basic assumptions and contexts of anthropological work. The synthesis of ideas and methods into professional skills and careers.

## **480 History of Anthropology (3)**

Prerequisite: At least 12 units of anthropology or consent of instructor. Historical antecedents of modern anthropology. A systematic survey of the development of anthropology as a scientific field; an examination of the principal contributions of leading anthropologists, past and present. Reinterpretations and emerging trends.



**490 Senior Seminar in Anthropology (3)**

Prerequisite: Consent of the instructor. Topics in anthropology selected by the faculty and students participating in the course.

**499 Independent Study (1-3)**

Prerequisites: At least 15 units of anthropology and consent of the adviser. Student selection of an individual research project involving either library or field-work. There are conferences with the adviser as necessary, and the work results in one or more papers. May be repeated for credit.

**501 Seminar: Methodology of Anthropological Research (3)**

Prerequisites: Anthropology 202, 401, and consent of instructor. Examination, analysis and evaluation of the contemporary methodological spectrum in anthropology and of new trends in research planning and implementation. Consideration and critique of specific cases involving differing research designs.

**502 Contemporary Theory in Cultural Anthropology (3)**

Prerequisite: Anthropology 480 or consent of instructor. Critique of the basic assumptions and theoretical positions of leading contemporary anthropologists.

**504 Seminar: Selected Topics in Anthropology (3)**

Prerequisites: Completion of undergraduate major in anthropology and/or graduate standing or consent of instructor. The topic chosen and a general outline of the seminar will be announced by the Department of Anthropology to graduate students in Anthropology and circulated to other potentially interested departments. May be repeated.

**505 Seminar: Phonetics and Phonemics (3)**

(Same as Linguistics 505)

**507 Seminar: Morpho-syntax (3)**

(Same as Linguistics 507)

**508 Modern Theories of Syntax (3)**

Prerequisites: Anthropology 507 or Foreign Languages 507 or Linguistics 507 or consent of instructor. Speech 404 and Anthropology 410 recommended but not required. Intensive and practical study of contemporary theories of grammar, with special emphasis on transformational, generative, logical, and electromechanical bases and techniques of utterance analysis. (Same as Linguistics 508)

**550 Seminar in Problems in the Teaching of Anthropology (3)**

Prerequisite: Consent of instructor. Discussion of a variety of methods and materials for the teaching of anthropology at primary, secondary, and undergraduate college levels.

**592 Field Methods in Linguistics (3)**

Prerequisites: Anthropology 505 and 507 or consent of instructor. Methods of analysis and description of language structures. Data elicited from informants will be analyzed and described. Controlled study of a live informant's language. (Same as Linguistics 592)

**597 Project (3-6)**

Prerequisite: Graduate standing and consent of instructor. Research undertaken as alternative to master's thesis. May be repeated for credit.

**598 Thesis (3-6)**

Prerequisites for this course: Graduate standing and consent of instructor. The writing of a thesis based on original field research, library study or an educational project and its analysis and evaluation. May be repeated for credit.

## Astronomy

### 599 Independent Graduate Research (1-3)

Prerequisite: Consent of department. Individual research on either a field or a library study, with conferences with a project adviser as necessary, and resulting in one or more papers. May be repeated for credit.

## ASTRONOMY

(Offered by the Department of Science and Mathematics Education and the Department of Physics.)

See department listings for course descriptions of the following:

### Physics 300 Introduction to Astronomy (3)

(Same as Earth Science 300)

### Earth Science 350 General Astronomy (4) (Formerly 200)

(Same as Physics 350)

## BIOLOGICAL SCIENCE

### 101 Elements of Biology (5)

An introduction to basic concepts in the study of living organisms and to the characteristics of the natural environment. (3 hours lecture, 6 hours laboratory)

### 102 Crisis Biology (3)

A discussion of general principles involving the species, community, population and ecosystem levels of biology. Man is discussed both as a single species in this system, and as the dominant modifier of this environment (Is there intelligent life on earth?) Offered on a pass/no pass basis only. (3 hours lecture)

### 141 Principles of Botany (4)

Prerequisite: Bio Sci 101. Emphasis will be placed on the dynamic aspects of botany although the traditional areas of morphology and classification will not be neglected. Required of all biology majors. (2 hours lecture, 6 hours laboratory)

### 161 Principles of Zoology (4)

Prerequisite: Bio Sci 101. An introduction to the principles of animal biology with special reference to the structure, classification, physiology, behavior and ecology of animals. Required of all biology majors. (2 hours lecture, 6 hours laboratory)

### 201 Field Biology

(See course description under Nature Interpretation)

### 305 Molecular Biology (4) (Formerly 315)

Prerequisites: two semesters of college biology, a year course in inorganic chemistry and concurrent enrollment in organic chemistry. An introduction to the physical and chemical aspects of biological science, using subcellular activities as the primary focus of the course. Topics include studies of modern data-gathering methods, subcellular structure and function, bioenergetics, biosynthesis and an introduction to heredity at the molecular level. (2 hours lecture, 6 hours laboratory)

### 312 Genetics Lecture (3)

Prerequisite: one year of college biology or permission of the instructor. The general principles and modern developments in the study of heredity. Course designed for biology majors: nonmajors see Bio Sci 313.

### 312L Genetics Laboratory (1)

Prerequisite: Bio Sci 312. The use of a variety of organisms and methods for exploring basic principles of genetics. (3 hours laboratory)



**313 Human Genetics (3)**

Prerequisite: Bio Sci 101 or equivalent. Principles of heredity with emphasis on methods of analysis, on interaction of genes and environment, and on gene populations in humans. (Same as Anthropology 313)

**316 Principles of Ecology (3)**

Prerequisite: one year college biology or permission of instructor. A community approach to plant and animal systems. Environmental factors, biological cycles and community types are discussed. Students are provided with background for the advanced ecology courses.

**316L Principles of Ecology Laboratory (1)**

Prerequisite: Bio Sci 316 (can be enrolled concurrently). Laboratory and field techniques used in ecological studies are taught. One or more field trips required. (3 hours laboratory)

**318 Marine Biology (4) (Formerly 325)**

Prerequisites: Bio Sci 101 or equivalent, or permission of the instructor. Physical and chemical aspects of the ocean as a background for the study of marine organisms and habitats, including food cycles, communities, identification, ecology, methods of collecting, and preserving local marine algae, invertebrates, and fish. (3 hours lecture, 3 hours laboratory or fieldwork)

**320 General Microbiology (4) (Formerly 311)**

Prerequisites: one semester courses in biology and chemistry. An introduction to the study of the morphology, growth and physiology of the bacteria and other microorganisms. A consideration of the role of microorganisms as agents of change in the natural processes important in health, industry and agriculture. (2 hours lecture, 6 hours laboratory)

**342 Plant Anatomy (4)**

Prerequisite: Bio Sci 141 or one year of college biology or equivalent. The origin, development, and maturation of leaves, stems, roots, and flowers of vascular plants. (2 hours lecture, 6 hours laboratory)

**344 Plant Morphology (4)**

Prerequisite: Bio Sci 141 or one year of college biology or equivalent. A study of the morphology and classification of the lower plant groups and a general survey of the major groups of plants exclusive of angiosperms and gymnosperms. (2 hours lecture, 6 hours laboratory)

**361 Mammalian Anatomy and Physiology (4)**

Prerequisite: one year of college biology or permission of instructor. Study of the structure and function of the human organism. (2 hours lecture, 6 hours laboratory)

**362 Histological Technique (3)**

Prerequisite: one year of college biology or permission of instructor. Theory and practice of the preparation of cells and tissues for microscopic study. 1 hour lecture, 6 hours laboratory)

**394 Readings in Biological Sciences (1) (Formerly 314)**

Prerequisite: Bio Sci 101 or equivalent. Directed readings of classical and contemporary biological literature with periodic group discussions concerning the methods and principles studied. This course is designed for the nonmajor and is open to seniors only. (3 hours laboratory)

**401 Biogeography (3)**

Prerequisites: Bio Sci 141, 161, and 404 or 465 or permission of instructor. A study of the present day distribution of plants and animals based upon classification, fossil records, morphology and geography.

## **Biological Science**

### **403 Biosystematics (4)**

Prerequisite: Bio Sci 312 and 404. An introduction to the principles and techniques of biosystematics, including evolutionary mechanisms, the species concept, taxonomic procedures and nomenclature. (2 hours lecture, 6 hours laboratory)

### **404 Evolution (3) (Formerly 424)**

Prerequisite: one year of college biology or permission of the instructor. A study of evolution, including the history of evolutionary thought; origin of universe, earth and life; geological and paleontological history of the earth; evidences for evolution derived from comparative anatomy, embryology, genetics, zoogeography; mechanisms of evolution.

### **404L Evolution Laboratory (1) (Formerly 424L)**

Prerequisite: Bio Sci 404 (may be taken concurrently). (3 hours laboratory)

### **406 Biometry (4)**

Prerequisite: Math 120 or Math 150A; upper division standing in biology. Introduction to experimental design, interpretation, and practical application of statistics to biological problems. (3 hours lecture, 3 hours laboratory)

### **410 General Cell Physiology (4) (Formerly 412)**

Prerequisites: one year of college biology and one semester of organic chemistry or permission of the instructor. Characteristics of life at the cellular level; processes by which the cell obtains energy and material and forms new cell substances; control of these processes by the cell; organization of structures and enzyme systems within the cell. (2 hours lecture, 6 hours laboratory)

### **412 Population Genetics (3)**

Prerequisite: Bio Sci 312 or 313. Theory of genetic change in population, primarily one-locus: maintenance of genetic variability, inbreeding, drift, mutation, section treated singly and in combination. Estimation of genetic parameters. (3 hours lecture, 1 hour activity)

### **416 Limnology-Fresh Water Ecology (4)**

Prerequisite: Bio Sci 141 and Chem 101B. Comparative physical, chemical and biological characteristics of inland waters and estuaries. (2 hours lecture, 6 hours laboratory)

### **417 General Oceanography (3) (Formerly 420)**

Prerequisites: Bio Sci 141 and 161, and Chem 101AB (may be concurrent), Physics 211. Introduction to oceanography including the study of the extent of the oceans; the chemical nature of the sea; marine geology; causes and effects of currents and tides; and interrelationships of plants and animal life.

### **418 Biological Oceanography (4) (Formerly 421)**

Prerequisite: Bio Sci 417. Biological factors of the marine environment; physiological and ecological relationships; methods of sampling, identification and analysis. (3 hours lecture, 3 hours laboratory)

### **419 Marine Ecology (4) (Formerly 426)**

Prerequisites: upper division or graduate standing in biological sciences, and successful completion of Bio Sci 418 or 461 or 446. A course in the fundamentals of ecology embracing the aspects of the interrelations of organisms and their environment with emphasis on productivity, population dynamics, behavior and biological associations. (2 hours lecture, 6 hours laboratory)

### **423 Pathogenic Microbiology (4) (Formerly 413)**

Prerequisite: one semester of microbiology or bacteriology. Study of the biology of infectious disease: mechanisms of microbial pathogenicity; host defenses; mode



of action of antibiotics and other antimicrobial agents; characteristics of specific pathogenic bacteria, fungi and viruses. (2 hours lecture, 6 hours laboratory)

**424 Immunology (4) (Formerly 414)**

Prerequisites: Bio Sci 305 and 320, Chem 301A, or permission of the instructor. Study of the nature of antibodies and antigens, their role in immunity, and the specificity of their reactions. Laboratory experiments will show the kinetics of antibody formation and the mechanisms of antibody-antigen reactions. Some techniques in serodiagnosis will be performed. (2 hours lecture, 6 hours laboratory)

**426 General Virology (2) (Formerly 516)**

Prerequisites: Bio Sci 305, 312 and 320. A comparison of bacterial, animal and plant viruses. A detailed study of viral structure and host-virus interaction in the viral replication process.

**426L General Virology Laboratory (2) (Formerly 516L)**

Prerequisites: Bio Sci 305, 312 and 320. Experimental methods for bacterial and animal viruses, including techniques for growth and titration of infectious viral units and physical characterization of virus structures. (6 hours laboratory)

**432 Microbial Genetics (2)**

Prerequisites: Bio Sci 305, 312 and 320. An advanced course on genetic mechanisms in microorganisms with particular emphasis on bacteria and bacterial viruses.

**432L Microbial Genetics Laboratory (2)**

Prerequisites: Bio Sci 305, 312 and 320. Experimental techniques used in research on the genetics of bacteria and bacterial viruses. (6 hours laboratory)

**436 Microbial Growth and Physiology (4)**

Prerequisites: one semester courses in microbiology and organic chemistry. An advanced treatment of the growth, physiology and structures of the microorganisms, with emphasis on study of the free-living bacteria, yeasts and molds. (2 hours lecture, 6 hours laboratory)

**439 Microbial Ecology (4)**

Prerequisite: one semester of microbiology or bacteriology. The interaction of microbes and their environment; the influence of physical and chemical factors on the distribution and activities of microbial populations; the effects of microbes on the living and nonliving environment. Basic principles of microbial enrichment, selection and succession. On completion of the basic experiments each student will select and perform a field and laboratory study in microbial ecology. (2 hours lecture, 6 hours laboratory)

**441 Plant Taxonomy (4)**

Prerequisite: Bio Sci 141 or one year of college biology or equivalent. An introduction to the study of classification of conifers and the flowering plants through field collecting and laboratory study and identification of representative kinds. (2 hours lecture, 6 hours laboratory)

**443 Plant Ecology (4)**

Prerequisite: Bio Sci 441. The study of plants in relation to their environment. Emphasis on climatic, soil, and time factors which influence plant formations, community structure, succession, physiology, anatomy and distribution of plants. (2 hours lecture, 6 hours laboratory; one or more overnight field trips required)

**444 Plant Physiology (4)**

Prerequisite: Bio Sci 141 or equivalent and one semester of organic chemistry or permission of the instructor. A study of plant growth, nutrition, food synthesis, and metabolism. (2 hours lecture, 6 hours laboratory)

## **Biological Science**

### **445 Mycology (4)**

Prerequisite: Bio Sci 141. A study of the comparative morphology and taxonomy of the fungi with an emphasis on morphological, physiological and reproductive characteristics demonstrating evolutionary relationships. (2 hours lecture, 6 hours laboratory)

### **446 Algology (4)**

Prerequisite: Bio Sci 141 or equivalent. A study of the comparative morphology and taxonomy of the algae including a consideration of the physiological and chemical characteristics demonstrating evolutionary relationships. (2 hours lecture, 6 hours laboratory or fieldwork)

### **452 Economic Botany (3)**

Prerequisites: Bio Sci 141 or permission of the instructor. An examination of man's dependence upon and economic interest in plants throughout the world.

### **461 Invertebrate Zoology (4)**

Prerequisite: Bio Sci 161, or a year of college biology or permission of instructor. Evolution, classification, physiological adaptations, and biology of invertebrate animals. Includes dissection, identification and observation of living animals. (2 hours lecture, 6 hours laboratory, or fieldwork)

### **462 Parasitology (4) (Formerly 472)**

Prerequisite: one year of general biology or permission of instructor. A consideration of the symbiotic relationships existing at all levels of animal organization. Emphasis will be placed on the natural history, biology, physiology, ecology and laboratory recognition of symbiotic organisms. (2 hours lecture, 6 hours laboratory)

### **463 Comparative Vertebrate Anatomy (4)**

Prerequisite: a year course in general zoology or biology, or permission of the instructor. A comparative study of the chordates, with emphasis on morphology and evolution of various organ systems from fish through mammals. Includes thorough dissection of dogfish, necturus, and cat. (2 hours lecture, 6 hours laboratory)

### **464 Embryology (4)**

Prerequisite: a year course in general zoology or biology or permission of the instructor. Study of development from fertilization through organogenesis with laboratory work on the frog, chick, and pig. (2 hours lecture, 6 hours laboratory)

### **465 Animal Ecology (4)**

Prerequisite: Bio Sci 316 or permission of the instructor. A survey of the physical, chemical, and biological factors of the environment as they affect the distribution and mode of life of animals. (2 hours lecture, 6 hours laboratory; one or more weekend trips per semester required)

### **466 Animal Behavior (3)**

Prerequisite: one year of college biology or permission of the instructor. An introduction to the current problems in animal behavior including sensory capacities, orientation, innate and learned patterns, and social behavior of invertebrates and vertebrates.

### **467 Entomology (4)**

Prerequisite: Bio Sci 161, or a year of college biology or permission of instructor. Anatomy, physiology, evolution, and biology of insects and other terrestrial arthropods. Laboratory includes detailed dissection, collection, identification, and observation of living arthropods. (2 hours lecture, and 6 hours laboratory or fieldwork)



**468 Comparative Animal Physiology (4)**

Prerequisites: principles of zoology, Chem 101A, 101B, and organic chemistry. A comparative survey of organ systems and physiological processes among invertebrate and vertebrate animals. (2 hours lecture, 6 hours laboratory)

**470 Arthropod Morphology (4)**

Prerequisite: Bio Sci 461 or 467. Survey of evolution, form and function of exoskeleton and organ systems of terrestrial arthropods, with emphasis on insects. (2 hours lecture, 6 hours laboratory)

**474 Natural History of the Vertebrates (4) (Formerly 471)**

Prerequisites: one year of college biology; comparative vertebrate anatomy, evolution, or permission of the instructor. Natural history, behavior, distribution, and ecology of the vertebrates. Laboratory and field emphasis on identification, behavior, maintenance of living and preserved animals. (2 hours lecture, 6 hours laboratory or fieldwork; one or more weekend trips per semester required)

**475 Ichthyology (4) (Formerly 469)**

Prerequisites: a year of college biology, comparative vertebrate anatomy, and natural history of the vertebrates, or permission of the instructor. The biology, structure, physiology, ecology, evolution and economic importance of fishes. Laboratory and field work in identification, collection, and natural history of fishes. (2 hours lecture, 6 hours laboratory or fieldwork per week; one or more weekend trips per semester required)

**476 Herpetology (4)**

Prerequisites: a year of college biology, comparative vertebrate anatomy, and natural history of the vertebrates; or permission of the instructor. The biology, structure, physiology, ecology, distribution, evolution, and behavior of amphibians and reptiles. Laboratory and fieldwork in identification, collection, study of amphibians and reptiles including studies on reptile and amphibian behavior and physiology. (2 hours lecture, 6 hours laboratory or fieldwork per week; one or more weekend trips per semester required)

**478 Mammalogy (4)**

Prerequisite: one year of college biology, comparative vertebrate anatomy, and natural history of the vertebrates; or permission of the instructor. The biology, structure, physiology, ecology, distribution, evolution and behavior of mammals. Laboratory and fieldwork in identification collection, and natural history of mammals. (2 hours lecture, 6 hours laboratory or fieldwork per week; one or more weekend trips per semester required)

**491 Senior Seminar (1)**

Prerequisites: senior standing in one of the sciences with a GPA of 2.8, or permission of the instructor. Topics in the biological sciences and related fields, selected by the faculty and students participating in the course.

**499 Independent Study (1-3)**

Open to qualified students who wish to pursue independent study in biology under general supervision. May be repeated for credit.

**502 Seminar in Biology (3)**

Open to graduate students only by permission of the instructor. May be repeated for credit.

**505 Seminar in Molecular Biology (3) (Formerly 515)**

Selected advanced topics in molecular biology, such as macromolecular structure, thermodynamics in biological systems and molecular regulation of cellular activi-

## Chemistry

ties. Open to graduate students and other qualified students by permission of instructor. May be repeated.

### 510 Seminar in Physiology (3)

Selected topics within the area of physiology. Open to graduate students and other qualified students by permission of instructor. May be repeated.

### 512 Seminar in Genetics (3)

Selected advanced topics within the general area of genetics. Open to graduate students and to other qualified students only by permission of instructor. May be repeated.

### 513 Molecular Genetics (4) (Formerly 504)

Prerequisite: Bio Sci 312, 305 and Chem 301A, B. The organization, replication and function of the genetic material and informational macromolecules in organisms from the viruses to the higher plants and animals. Topics include: chromosomal structure and function, recombination, mutagenesis, genetic coding, protein synthesis and genetic aspects of development. (3 hours lecture, 3 hours laboratory)

### 517 Seminar in Ecology (3)

Selected advanced topics within the general area of ecology. Open to graduate students and to other qualified students only by permission of instructor. May be repeated.

### 518 Seminar in Marine Science (3) (Formerly 520)

Selected advanced topics within the general area of marine science. Open to graduate students and to other qualified students only by permission of instructor. May be repeated.

### 520 Seminar in Microbiology (3) (Formerly 511)

Selected topics in the area of microbiology. Open to graduate students and other qualified students by permission of instructor. May be repeated.

### 524 Seminar in Immunology (3) (Formerly 514)

Selected topics in immunochemistry, immunobiology and medical immunology. Open to graduate students and other qualified students by permission of instructor. May be repeated.

### 540 Seminar in Botany (3)

Selected advanced topics within the general area of botany. Open to graduate students and to other qualified students by permission of the instructor. May be repeated.

### 560 Seminar in Zoology (3)

Selected advanced topics within the general area of zoology. Open to graduate students and to other qualified students by permission of the instructor. May be repeated.

### 598 Thesis (1-3)

May be repeated for a maximum of 6 units of credit.

### 599 Independent Graduate Research (1-3)

Open to graduate students only by permission of a staff member. May be repeated for credit.

## CHEMISTRY

### 100 Introductory Chemistry (4)

Prerequisite: one year of high school algebra. Fundamental principles of chemistry with emphasis placed on the chemistry of inorganic compounds. Does



not apply as credit for majors in the physical or biological sciences or for minors in the physical sciences. (3 hours lecture, 3 hours laboratory)

**101A,B General Chemistry (5,5)**

Prerequisites: high school algebra and either high school chemistry or high school physics or Chemistry 100. High school physics and trigonometry strongly recommended. Intended for majors and minors in the physical and biological sciences.

**101A**—The fundamental principles of chemistry including stoichiometry, gas laws, solid and liquid states, changes of state, modern atom concepts, chemical bonding and chemical equilibrium with emphasis on quantitative acid-base chemistry. Laboratory: experiments applying elementary physical chemistry and volumetric quantitative analysis. (3 hours lecture discussion, 6 hours laboratory)

**101B**—Oxidation-reduction chemistry, introduction to chemical thermodynamics and chemical kinetics, discussions of the chemistry of representative and transition elements, and introductions to biochemistry, organic and nuclear chemistry. Laboratory: Experiments concerning gravimetric and volumetric quantitative analysis, selected topics in qualitative analysis and inorganic preparations. (3 hours lecture discussion, 6 hours laboratory)

**105 General Chemistry for Engineers (3)**

Prerequisite: Chemistry 101A. Description the same as Chemistry 101B. Open only to engineering majors. Not open to students with credit in Chemistry 101B.

**201 Modern Physical Science (4)**

(See course description under Physical Science)

**205 Glassblowing (1)**

Elementary training in the manipulation of glass leading to the construction of scientific glass apparatus. Enrollment limited with preference given to junior and senior physical science majors. (4 hours laboratory)

**211 Quantitative Analysis (4)**

Prerequisites: two semesters of college chemistry. Stoichiometry and the fundamentals of volumetric and gravimetric quantitative analysis. Students completing Chemistry 101B with a grade of C or better will not receive credit. (2 hours lecture discussion, 6 hours laboratory)

**301A,B Organic Chemistry (3,3)**

Prerequisite: Chemistry 101B or equivalent. Chemistry 301B must involve concurrent enrollment in Chemistry 302B. A course in organic chemistry designed for the non-chemistry major. Emphasis is placed on modern theories of structure and reaction mechanism. Recommended for biology majors and students planning to enter a paramedical profession.

**302A,B Organic Chemistry Laboratory (1,1 or 2)**

Chemistry 302A may be taken concurrently with Chemistry 301B and 302B. Chemistry 302B must be taken concurrently with Chemistry 301B. A course designed to give training in the basic techniques of the organic chemistry laboratory, including synthesis of typical aliphatic and aromatic compounds. (3 hours laboratory) Chemistry 302A, B may be taken concurrently (6 hours laboratory) with 301B.

**305A,B Organic Chemistry (5,5)**

Prerequisite: Chemistry 101B or equivalent. A comprehensive course in organic chemistry designed for the chemistry major. Emphasis in lecture and laboratory

## Chemistry

is placed upon modern theories of structure and reaction mechanism with applications of modern instrumental and spectroscopic methods. (3 hours lecture discussion, 6 hours laboratory)

### 312 Quantitative Chemistry (4)

Prerequisites: Chemistry 101A,B, (grade C or better) or Chemistry 211. Physics 211A,B, or Physics 221A,B strongly recommended. Modern analytical chemistry including contemporary separation methods, nonaqueous quantitative chemistry, and introductions to instrumental methods of analysis in electrochemistry, absorption spectroscopy, and radiochemistry. (2 hours lecture discussion, 6 hours laboratory)

### 351 Introduction to Biochemistry (4)

Prerequisites: Chemistry 251 or 301B and five units of biology. A survey of the chemistry and metabolism of proteins, carbohydrates, lipids, hormones, in plants, animals, and microorganisms. (3 hours lecture discussion, 3 hours laboratory)

### 371A,B Physical Chemistry (3,3)

Prerequisites: Mathematics 250, one year of Physics and Chemistry 101B. Chemistry 312 recommended. Equivalent courses may be substituted. A study of the fundamental laws and theories of chemistry. Thermodynamics, solutions, chemical and phase equilibria, electrochemistry, transport phenomena, introduction to atomic and molecular structure, rotation and vibration spectroscopy, statistical mechanics, kinetics are the major topics discussed. Discussions with emphasis on the use of fundamental principles to solve problems.

### 403 Analysis of Organic Compounds (4)

Prerequisite: Chemistry 305A, B and 312 or equivalents. Isolation and identification of organic compounds using chemical and instrumental techniques. (2 hours lecture discussion, 6 hours laboratory)

### 411 Instrumental Analysis (4)

Prerequisites: Chemistry 312, 301A, B, 371A, B and one year of college physics. Advanced topics in absorption and emission spectroscopy, nuclear magnetic resonance, electron spin resonance, mass spectrometry, gas chromatography, X-ray methods, electrochemistry and radiochemistry. (2 hours lecture discussion, 6 hours laboratory)

### 421A,B General Biochemistry (3,3)

Prerequisite: Chemistry 301B or equivalent. Survey of major areas of biochemistry, including chemistry and functions of compounds of biochemical interest.

### 422A,B General Biochemistry Laboratory (2,2)

Prerequisites: Concurrent or prior enrollment in Chemistry 421A, B. Laboratory designed to illustrate the chemistry and metabolism of carbohydrates, lipids, and proteins, and to introduce the student to research methods. (6 hours laboratory)

### 425 Advanced Inorganic Chemistry (3)

Prerequisites: Chemistry 101 A, B or equivalent and Chemistry 301A, B and 371A, B. A comprehensive inorganic chemistry course with an introduction to modern theories of chemical bonding and structure. Theoretical treatments include molecular orbital and ligand field theory with their extensions, coordination and transition metal chemistry, various aspects of nonmetal chemistry and a discussion of hydride properties.

### 427 Preparative Techniques (4)

Prerequisites: Chemistry 312, 301A, B and 425 (concurrent enrollment acceptable) or equivalents. Laboratory exercises using advanced techniques and modern



methods for the preparation and identification of chemical compounds. Readings in the current literature required.

**431 Advanced Organic Chemistry (3)**

Prerequisites: Chemistry 301A, B, 371A and 371B. Theoretical aspects of organic chemistry with emphasis on the modern concepts of structure and chemical reactivity.

**441 Physical Chemistry Laboratory (4)**

Prerequisite: Chemistry 371A,B. Laboratory exercises illustrating the physical principles of chemistry. (2 hour lecture discussion, 6 hours laboratory)

**451 Quantum Chemistry (3)**

Prerequisite: Chemistry 371A,B. An introduction to the application of quantum mechanics. Postulates and theories approximation methods, the electronic structure of atoms and periodic system, molecules and the chemical bond, and introduction to group theory.

**495 Senior Research (1-3)**

Prerequisite: three one-year courses in chemistry and senior standing. Must have consent of supervising instructor before enrollment. Open only to students with a 3.0 grade point average in chemistry. An introduction to the methods of chemical research through a research project carried out under the supervision of one of the Chemistry Department faculty. May be repeated for credit.

**499 Independent Study (1-3)**

Prerequisite: upper division standing and completion of two one-year courses in chemistry. Study of some special topic in chemistry, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

**500 Research in Chemistry (1-6)**

Prerequisites: admission to graduate standing and consent of supervising instructor before enrollment. Research in one of the fields of chemistry on an individual basis under the supervision of an appropriate faculty member.

**505 Seminar (1-2)**

Prerequisite: graduate standing and consent of department. Student presentations of recent contributions to the chemical literature. May be repeated for credit.

**511 Theory of Separations (2)**

Prerequisites: Chemistry 312, 301A,B, 371A,B. The theory, application, and limitations of physical and chemical separation techniques.

**512 Electroanalytical Chemistry (4)**

Prerequisites: Chemistry 312, 301A,B and 371A,B. Advanced topics in potentiometry, amperometry, electroanalysis, coulometry, conductometry, polarography, single and multiple sweep voltammetry, chronopotentiometry and chronoamperometry.

**525 Radiochemistry (4)**

Prerequisite: Chemistry 371A,B. Introduction to the theory of nuclear properties and phenomena; their detection and measurement; application of their technology to chemical experimentation.

**528 Coordination Chemistry (3)**

Prerequisite: Chemistry 425 or equivalent. A concise treatment of the structure and bonding in coordination compounds according to crystal field, molecular orbital, and ligand field theories is included, as well as preparative methods and a

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survey of ligand substitution kinetics. The theoretical models will be related to spectral, thermodynamic, kinetic and redox properties. Biochemical and industrial uses of coordination compounds will be discussed.

### 531 Theoretical Organic Chemistry (3)

Prerequisites: Chemistry 431 and 550. The application of theoretical concepts to current topics of physical organic chemistry research.

### 535 Organic Synthesis (3)

Prerequisites: Chemistry 301A,B or 305A,B and 371A,B (concurrent enrollment acceptable). Methods of synthetic organic chemistry research.

### 539 Chemistry of Natural Products (3)

Prerequisite: Chemistry 431. Topics will be selected from alkaloids, terpenes, steroids, antibiotics, pigments and other natural products and may cover isolation, classification, structural elucidation and synthesis.

### 541 Enzyme Chemistry (3)

Prerequisite: Chemistry 421B or consent of instructor. Discussion of the structure and preparation of enzymes, kinetics of enzyme reactions and the mechanism of various classes of enzymes.

### 542 Intermediary Metabolism (3)

Prerequisite: Chemistry 421B or consent of instructor. A discussion of metabolic and biosynthetic pathways and physiological control mechanisms.

### 550 Advanced Physical Chemistry (4)

Prerequisite: Chemistry 371A,B or equivalent. An advanced study of classical thermodynamics followed by an introductory study of statistical mechanics and chemical kinetics.

### 551 Quantum Mechanics (3)

Prerequisite: Chemistry 451. Elementary applications. Perturbation theory, collision problems, relativistic theory of the electron, theories of valence, complex compounds and complex crystals.

### 555 Chemical Kinetics (3)

Prerequisite: Chemistry 550 or permission of the instructor. Analysis of reacting systems; theories of chemical kinetics; discussion of gas phase, liquid phase and surface reactions including recent developments.

### 561 Statistical Thermodynamics (3)

Prerequisite: Chemistry 550 or equivalent. A study of statistical mechanics and its application to chemical problems.

### 572 X-Ray Crystallography (3)

Prerequisites: Physics 221A,B, Mathematics 250, and Chemistry 301A,B, or equivalent courses. Morphological crystallography, crystal symmetry and crystallographic groups, X-rays and X-ray diffraction, the recording and interpretation of diffraction phenomena, and the analysis of crystal structures, including computer applications.

### 575 Theory of Spectroscopy (3)

Prerequisite: Chemistry 451 or equivalent. Group theory, symmetry mode, intensities and selection rules, selected topics from electronic spectra of atoms and molecules, UV, IR, NMR, ESR and Raman spectroscopy.



**580 Topics in Advanced Chemistry (1-6)**

Prerequisites: graduate standing in chemistry. Selected areas of current research interest in chemistry will be discussed. May be repeated for credit.

**598 Thesis (1-2)**

Prerequisites: an officially appointed thesis committee and advancement to candidacy. Guidance in the preparation of a project or thesis for the master's degree.

**599 Independent Graduate Research (1-3)**

Prerequisite: graduate standing in chemistry. May be repeated for credit.

**COMMUNICATIONS**

**101 Reporting and Writing (3)**

Introduction to news reporting and writing, with emphasis on news gathering, evaluation, and the principles of clarity and conciseness. Typing ability required.

**102 Reporting and Writing (3)**

Prerequisite: Communications 101 or permission of instructor. Concentration on writing of more advanced news stories and news features. Typing ability required.

**103 Applied Writing (3)**

Organizational principles and practice in preparing letters, reports, documents and proposals as required in most occupations. Designed especially for non-communications majors.

**218A Introduction to Photography (2)**

Introduction to photographic theory and the application of photographic principles. Students must provide their own adjustable cameras. (1 hour lecture, 3 hours laboratory)

**218B Communications Photography (2)**

Prerequisite: Communications 218A or permission of instructor. Application of photographic principles to the requirements of mass communications. (1 hour lecture, 3 hours laboratory)

**290 History and Aesthetics of Motion Pictures (3)**

(Same as Theatre 290)

**306 Photographic Production (2)**

Prerequisites: Communications 218A 218B, or permission of instructor. Production of photographs for college publications and television programs. Application of photocommunication principles to media problems under deadline conditions. (6 hours laboratory)

**311 Introduction to Motion Picture Production (3)**

Introduction to theory and practice of motion picture photography and film production. (2 hours lecture, 3 hours laboratory)

**319 Documentary Film Production (3)**

Prerequisites: Communications 218A and 375, or permission of instructor. Fundamentals of documentary film script writing, production planning and execution. (2 hours lecture, 3 hours laboratory)

**331 News Communication (3)**

An introduction to the news communication media, with experience in news writing. (Not open to students with credit in Communications 101-102.)

## **Communications**

### **332 Copy Editing and Makeup (3)**

Prerequisite: Communications 101 and 102, or permission of instructor. Practice and theory of editing information materials for publication in newspapers and magazines. (6 hours activity)

### **333 Mass Communication in Modern Society (3)**

The basic structure and the interrelationships of newspapers, magazines, films, radio, television, in terms of their significance as social instruments and economic entities in modern society.

### **334 Feature Article Writing (3)**

Nonfiction writing for newspapers and magazines, including study of sources, methods, and markets. Open to nonmajors.

### **335 Reporting of Public Affairs (3)**

Prerequisites: Communications 101 and 102, or permission of instructor. Coverage in depth of significant events pertinent to operations of governmental units and related organizations.

### **338 Newspaper Production (3)**

Prerequisite: permission of the instructor. A lecture and activity course in which members of the class constitute the editorial staff of the college newspaper. The group meets four hours per week for critiques in news reporting, writing, editing and makeup, followed by production. With consent of instructor, the course may be repeated up to a maximum of nine units credit. (More than 9 hours laboratory)

### **353 Advertising Copy and Layout (3)**

Writing of copy and layout of advertisements, based on study of sales appeals, attention factors, and illustrations. (6 hours activity)

### **354 Retail Advertising (3)**

Principles and procedures of retail advertising; utilization of mass media; supervised field assignments in the analysis of specific advertising needs.

### **356 Advertising Production (1)**

Preparation of advertisements for the college newspaper, magazine and yearbook. Advertising accounts assigned to each student. Weekly critique sessions. Individual consultation with instructor. (5 hours laboratory)

### **358A,B Publications Production (2,2)**

A workshop for students engaged in the production of the college magazine and yearbook and other types of student publications, as scheduled by appropriate college authorities. Activities will include writing, editing, photography, art work, and layout. Open to nonmajors. (More than 6 hours laboratory)

### **361 Theory and Practice of Public Relations (3)**

Examination of basic principles of public relations and their application in non-commercial as well as commercial fields, including industry, education, government and welfare.

### **371 Radio-television News and Public Affairs (3)**

Theory and practice of covering news events and public affairs for radio and television. Student material will be prepared for broadcast locally. (6 hours activity)

### **375 The Documentary Film (3)**

Purpose and development of the documentary; current trends; critical analysis; production requirements; future of the medium in business, government and education, and television. Students will analyze selected documentary films.



**380 Introduction to Radio and Television (3)**

(Same as Theatre 380)

**381 Broadcast Advertising (3)**

Advantages and limitations of television and radio as advertising media. Planning advertising campaigns, costs and coverage. (2 hours lecture, 3 hours laboratory)

**390 Introduction to Telecommunications Production (3)**

Prerequisite: Communications 380 or permission of instructor. Basic theory and practice of radio and television program production. (2 hours lecture, 3 hours laboratory)

**401 Report Writing (3)**

Planning, organizing and writing of various kinds of reports for business, education and government. Consideration will be given to use of graphic aids and preparation of copy for reports that are to be printed. Recommended for non-majors.

**403 Technical Writing (3)**

The study of uses of technical writing in industry, science and engineering, and the completion of written assignments designed to test understanding of, and provide experience with various forms.

**404 Advanced Technical Writing and Editing (3)**

Writing and editing of technical material for reports, proposals, special publications and journals.

**407 Communication and the Law (3)**

Development of Anglo-American concept of freedom of speech and press; statutes and administrative regulations affecting freedom of information and of publishing, advertising and telecommunications. Problems of libel and slander, rights in news and advertising, contempt, copyright, and invasion of privacy. Open to nonmajors.

**425 History and Philosophy of American Mass Communication (3)**

The development of American mass communication beginning with newspapers and periodicals and continuing through radio and television. Includes ideological, political, social and economic aspects.

**426 World Communication Systems (3)**

The examination of major mass communication systems, both democratic and totalitarian, and the means by which news and propaganda are conveyed internationally.

**427 Seminar on Current Issues in Mass Communication (3)**

Prerequisite: consent of instructor. Consideration of problems such as the extent to which the mass media should be regulated by the government, "objective" versus "interpretive" news reporting, and ethical and legal questions of particular cases.

**428 Communications and Social Change (3)**

Examination of the impact upon contemporary society of American mass media and mass communications.

**439 Mass Media Internship (2)**

According to his vocational preference, the student serves a supervised internship with a newspaper, magazine, radio or television station, press association, advertising agency, or public relations firm.

## **Communications**

### **451 National Advertising Campaigns (3)**

Advanced study of advertising campaigns; utilization of news media—television, newspapers, magazines, etc.—in national advertising programs. Design of complete campaign from idea to production.

### **463 Public Relations Methods (3)**

Prerequisite: Communications 361 or equivalent, or consent of the instructor. Means by which public relations concepts are carried out through the mass media.

### **465 International Public Relations (3)**

Application of public relations principle to the requirements of international operation in business, education, religion and philanthropy.

### **467 Public Relations for Educational Institutions (3)**

Prerequisite: Communications 361 or permission of the instructor. Examines the theory and practice of public relations as it applies to public and private schools at all levels, including the methods, policies, programs and problems inherent in educational public relations.

### **473 Telecommunication Regulation (3)**

Prerequisites: Communications 380, comparable course, consent of instructor, Theatre 380. Self-regulation, governmental regulation, and international regulation of broadcast programming.

### **475 Telecommunication Programming (3)**

Prerequisite: Communications 380 or Theatre 380. Theory and practice of programming for television and radio.

### **477 Telecommunication Station Management (3)**

Prerequisite: Communications 380. Functions and policies of broadcasting station and network management. Effects of government, public opinion, employee groups, and ownership. Technical, legal, financial and other obligations.

### **479 Advanced Telecommunications Production (3)**

Prerequisite: Communications 390 or permission of instructor. Advanced techniques in producing television-radio programs. (2 hours lecture, 3 hours laboratory)

### **499 Independent Study (1-3)**

Prerequisite: consent of the department chairman. Individually supervised mass media projects and research on and off campus. Research and projects may involve newspapers, magazines, radio, television, and public relations agencies. May be repeated for credit.

### **500 Mass Communication Theory (3)**

Prerequisite: B.A. degree, background in mass communications, or consent of instructor. Theory of mass communication in terms of communicator, media, and audience. Consideration of extensive research regarding probable effects of mass communications.

### **501 Literature of Mass Communications (3)**

Types, sources, and uses of mass communication literature; application to individual graduate studies.

### **510A Seminar in Mass Communications Research (3)**

Prerequisites: graduate standing and 24 units of undergraduate communications study or consent of the instructor. A survey of the research areas, methods, and techniques of communications research. Research in selected problems in communications.



**510B Seminar in Mass Communications Research (3)**

Prerequisite: Communications 510A. Application of research techniques to problems in the following areas: advertising, broadcasting, news-editorial, public relations, journalism education and history of the mass media.

**512 Graduate Seminar: Journalism Education (3)**

Prerequisite: graduate standing. Study of selected problems in journalism education with emphasis on individual research.

**597 Project (3 or 6)**

Completion of a creative project in the area of concentration beyond regularly offered course work.

**598 Thesis (3 or 6)**

Completion of a thesis in the area of concentration beyond regularly offered course work.

**599 Independent Graduate Research (1-3)**

Prerequisite: consent of the department chairman. Individually supervised mass media projects or research for graduate students. May be repeated for credit.

**COMPARATIVE LITERATURE**

(Offered by the Department of English)

**202 Short Story (3)**

(Same as English 202)

**305 The Hebrew Prophets (3)**

(Same as Religious Studies 305)

**312 The Bible as Literature (3)**

A comprehensive survey of Biblical literature emphasizing intrinsic literary qualities as well as the influence of major themes of both Old and New Testament writings upon western literary traditions.

**315 Classical Mythology in World Literature (3)**

The origins, elements, forms and functions of classical mythology in works from the earliest times to the present.

**316 Celtic and Germanic Mythology (3)**

A basic study of the principal Celtic and Germanic myths with some discussion of literary and archeological relationships.

**317 Indic Mythology (3)**

A survey of the mythologies embodied in the *Mahabharata*, the *Ramayana*, the *Vedas* and the *Sathapatha Brahmana* of India, and in the *Abast*, *Avesta*, and *Shah Namah* of Persia, and their relation to the principal mythologies of Europe.

**320 Greek and Roman Literature (3)**

Readings in English translation from the literature of classical Greece and Rome.

**324A Advanced World Literature (3)**

Selected readings in Indian, Chinese, Japanese, Middle Eastern and European literature from the beginning to 1650.

**324B Advanced World Literature (3)**

Selected readings from Oriental and Western literature from 1650 to the present.

## **Comparative Literature**

### **332 Medieval Literature of Western Europe (3)**

Selected readings in modern English translation from the medieval literature of England and the continent from St. Augustine to Sir Thomas Malory.

### **333 Literature of the Renaissance (3)**

Major phases of the Renaissance as a literary movement, from Erasmus to Montaigne and Cervantes.

### **352 African Literature (3)**

(Same as English 352)

### **360 Irish Literature (3)**

Selected writings representative of Irish literature from the early Middle Ages to the present.

### **371A,B The French Tradition (3)**

A comprehensive survey of French Literature from the Renaissance to present times. The first semester will include the novel, short story and essay; the second semester will cover drama and poetry.

### **373 Masters of Russian Literature (3)**

Reading, discussion, and interpretation of selected works by Pushkin, Dostoyevsky, Tolstoy, Chekhov, Pasternak, and others, and their relationship to Western literature.

### **374 Modern Russian Literature (3)**

A study of literary trends and representative works of Russian writers from Maxim Gorky to the present times. Special consideration of the Soviet literary theory and its impact upon their literature. Lectures and readings in English.

### **375 Hispanic Literature (3)**

A study of selected translations from Hispanic literature and their relations to world literature. Readings in the picaresque novel, Cervantes, Golden Age drama, Galdos, Unamuno, Lorca.

### **376 Main Trends in Spanish-American Literature (3)**

An introduction to the main currents of Spanish-American literature, emphasizing contemporary writers such as Alegria, Asturias, Borges, Fuentes, Neruda. Close attention will be given to the relation between the artistic expression and the ideological values of the same period.

### **402 Art, Literature, and the Development of Consciousness (3)**

(Same as Interdisciplinary Center 402)

### **403 The Quest for Self: East and West (3)**

(Same as Interdisciplinary Center 403)

### **404 The Nature of Love: Plato to Joyce (3)**

(Same as Interdisciplinary Center 404)

### **405 Psychoanalysis and Drama (3)**

(Same as Interdisciplinary Center 405)

### **425A Oriental Literature (3)**

A study of selected translations of Indian and Chinese literature.

### **425B Oriental Literature (3)**

A study of selected translations of Japanese literature.



**430 Persian and Arabian Literature (3)**

A survey course on the nature and distribution of the classics of western Asia in English translation, with lectures, readings and discussion.

**445 Literature of the Americas: Contemporary Novelists (3)**

A study of the interdependency of the contemporary fiction of North and South America. It focuses on direct influences, such as Hemingway's and Faulkner's on Latin American writers, and Borges' influence on North American writers. It also examines several parallels in techniques and themes as they reflect relationships in and between the Northern and Southern cultures.

**450 The Naturalists (3)**

A study of naturalism in the works of Turgenev, Balzac, the brothers Goncourt, Maupassant, Zola, Huysmans, Ibsen, Verga; and also the works of Gissing, Moore, Hardy, Garland, Crane, Norris, Dreiser, London, and O'Neill.

**453 The Novel in France and Germany (3)**

Reading, discussion, and interpretation of outstanding novels in translation with a view toward determining some principles of the narrative arts. Emphasis on Goethe, Stendhal, Flaubert, Mann, Kafka, Proust, and others.

**454 Contemporary Movements in European Literature (3)**

A study of modern literary movements, including naturalism, realism, symbolism, expressionism and surrealism, with reading and discussion of selected examples.

**473A,B World Drama (3,3)**

Reading, discussion and interpretation of great plays of the world in translation, emphasizing them as literature for performance. First semester from ancient Greece through the mid-19th century; second semester, from Ibsen to the present. (Same as Theatre 473A,B)

**482 Senior Seminar: Major Writers (3)**

Directed research and writing, group discussion, and lectures involving intensive study of major writers. The student should consult his adviser and the schedule of classes for the sections available. This course number may be repeated with different content for additional credit.

**483 Senior Seminar: Special Studies in Comparative Literature (3)**

Directed research and writing, group discussion, and lectures devoted to significant periods, movements, and themes in world literature. The student should consult his adviser and the schedule of classes for the sections available. This course number may be repeated with different content for additional credit.

**491 Senior Seminar: Greek Tragedy (3)**

Fifth century Greek tragedy through the extant works of Aeschylus and Sophocles, and 10 plays of Euripides. (Same as Theatre 491)

**491 Senior Seminar: Realism (3)**

The theory, the origins, and the development of realism.

**492 Literature of Action in 20th Century France (3)**

(Same as French 492)

**492 German Literature in Translation (3)**

(Same as German 492)

**499 Independent Study (1-3)**

**582 Graduate Seminar: Dante (3)**

**EARTH SCIENCE**

(Offered by the Department of Science and Mathematics Education)

**101 Physical Geology (4)**

An introduction to the physical nature of the planet earth, its properties and composition; the genesis and relationships of rocks and minerals; erosion processes and their effects; the evolution of the earth's crust. (3 hours lecture, 3 hours laboratory, 1 field trip)

**102 Historical Geology (4)**

Prerequisite: Geology 101 or consent of instructor. The history of the earth as interpreted from rocks, structures and fossils. Consideration of the geologic time scale, ancient environments, and the development of life, with emphasis on their interdependence. Development of continents and ocean basins. (3 hours lecture, 3 hours laboratory, 1 or 2 field trips)

**110 Introduction to Physical Oceanography (3)**

Prerequisite: High school physics or chemistry and algebra. An introduction to the physical, chemical, and geological nature of the oceans. Does not apply as credit for majors in earth science. (3 hours lecture, 2 field trips)

**300 Introduction to Astronomy (3)**

(Same as Physics 300)

**301, 302, 401, 402 Studies in Geoscience (2-6 units each)**

Open to majors in earth science and related fields. Students may elect from two to six units per semester with approval of instructor. Guided independent study of problems in earth science. Supervision is geared to the experience and maturity of each student. Problems are designed to explore significant aspects of earth science and may be taken in any sequence. (1 hour of discussion or conference, 3 hours of laboratory, supervised study and fieldwork for each 2 units)

Areas of study that may be covered in Earth Science 301, 302, 401 and 402 include work in each of the following categories:

A. Studies in the area of *geochemistry*. Prerequisites: Physical geology and general chemistry. Problems in the identification and classification of rocks, minerals, soils, water types; geochemistry of crystalline solids, magmatic, marine, and meteoric liquids, and atmospheric and volcanic gases; properties, growth, symmetry, and morphology of crystals; genesis of earth materials and the interdependence of their development. Optical, chemical, X-ray, and physical experimental techniques. Field methods of collecting and evaluating data.

B. Studies in the area of *geobiology*. Prerequisites: Historical geology and a semester of biology. Problems in the reconstruction of geologic history by evolutionary trends in fossils, by radioactive isotope determinations, by stratigraphic sequence, by relationships of sedimentary facies, by analysis of rock structures in field and laboratory. Inter-relationships of flora and fauna and the genesis of rocks, oceans, and atmosphere. Techniques for identification and classification of fossils. Preparation and interpretation of maps, diagrams, and aerial photographs.

C. Studies in the area of *geo-fluids*. Prerequisite: Fundamental physics. Problems in the energy systems of oceans, atmosphere and surface and underground water and their interfaces; morphology and genesis of shorelines and seafloor; dynamics of oceans and atmosphere; physics of clouds and water vapor; classification and analysis of weather systems; composition and structure of oceans and atmosphere; evolutionary development of oceans and atmosphere. Methods and instruments.



D. Studies in the area of *geophysics*. Prerequisites: Fundamental physics. Astronomy recommended. Problems in the techniques and applications of seismology to earthquakes, exploration, and the earth's interior; measurement and interpretation of gravitation, terrestrial magnetism, and terrestrial heat; extra-terrestrial radiation, plasmas, and upper-atmospheric phenomena; lunar and planetary structures, surfaces and atmospheres; hypotheses of the origins of planets, atmospheres, oceans, continents, and mountains. Geophysical instruments and methods of investigation.

The amount of study in each area will be determined by the student's interests and goals and with the approval of the student's adviser. Other areas may be selected with consent of the department.

### **350 General Astronomy (4) (Formerly 200)**

Prerequisite or corequisite: Mathematics 150A. High school physics recommended. Methods of astronomy, celestial motion, solar system, stellar types, galactic structure, theories of origin of the universe and solar system. (Same as Physics 350) (3 hours lecture, 1 hour quiz)

### **499 Independent Study (1-3)**

Study of some special topic in earth science, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

## **ENGLISH**

For world literature in English translation see courses under Comparative Literature. English 101 \* and 102 \* or their equivalent are normal prerequisites for all courses numbered 200 or above.

### **101 Composition and World Literature (3)**

Analytical and critical writing based on the study of representative works from Classical and Biblical literature to the Renaissance.

### **102 World Literature and Composition (3)**

Prerequisite: English 101 or the equivalent. The study of representative works from the Renaissance to the modern age, as a basis for continuing practice in analytical and critical writing.

### **201 Analysis of Literary Forms (3)**

The main literary forms—prose fiction, poetry, and drama—are studied and analyzed. Various critical methods are applied to representative works mainly from English and American literature. Especially recommended for prospective teachers of literature.

### **202 The Short Story (3)**

A course designed to introduce the student to the study of the structure and technique of the short story. Emphasis on critical analysis of selected American and European short stories. (Same as Comparative Literature 202)

### **205 Introduction to Drama (3)**

A course designed to introduce the student to the study of dramatic literature. Emphasis on close analysis of individual plays.

### **206 Introduction to Poetry (3)**

The course is designed to increase students' understanding and appreciation of the art of poetry. The primary activity will be close reading of poems written in English.

\* Final decisions on any changes in the freshman English program for 1970-71 were not made in time for inclusion in this catalog. Please see "Special English Department Bulletin '70-'71," available in the English Department, for English Department course descriptions and requirements at the 100 level.

## English

### **211 Masters of British Literature (3)**

Prerequisite: Limited to students who are of sophomore standing or who have obtained the consent of the instructor. An introduction to major periods and movements, major authors, and major forms through 1760.

### **212 Masters of British Literature (3)**

Prerequisite: limited to students who are of sophomore standing or who have obtained the consent of the instructor. An introduction to major periods and movements, major authors, and major forms from 1760 through modern times.

### **301 Advanced Composition (3)**

Exercises in creativity, analysis, and rhetoric as applied in expository writing. Required of English majors seeking the secondary credential.

### **303 The Structure of Modern English (3)**

Prerequisite: junior standing. The grammar of contemporary English applied to problems in writing. Modern English usage. Required of English majors seeking the secondary credential.

### **305 American Dialects (3)**

An examination of the principles of dialectology. Emphasis will be on the description of modern American dialects and their role in social, cultural and educational issues of today.

### **320 Literature of the American Indian (3)**

A study of the prose and poetry of the American Indian, focusing on the literatures of the North American tribes.

### **321 American Literature to Whitman (3)**

Emphasis on major writers: Hawthorne, Poe, Melville, Emerson, Thoreau, Whitman, and others.

### **322 American Literature from Twain to the Moderns (3)**

Emphasis on Twain, James, Crane, Hemingway, Faulkner, O'Neill, Frost, Eliot.

### **332 Medieval English Literature (3)**

An introduction to the literature of medieval England, exclusive of Chaucer. Readings in modern English versions of representative major works and genres from *Beowulf* to Malory.

### **333 Chaucer (3)**

A study of *The Canterbury Tales* and of Chaucer's language, with particular emphasis upon the understanding of the vocabulary, pronunciation, grammar, and syntax of the East Midland dialect of Middle English, as indispensable to literary appreciation.

### **334 Shakespeare (3)**

An introduction to Shakespeare's art through a detailed study of the more famous plays.

### **335 Elizabethan and Jacobean Drama (3)**

Studies of representative English dramatists of the late 16th and early 17th centuries. Emphasis on the development of the dramatic tradition in the plays of Marlowe, Jonson, Webster, Beaumont and Fletcher, and others.

### **336 Elizabethan Poetry and Prose (3)**

A study of the nondramatic literature of the English Renaissance from More to Campion. Emphasis on Renaissance thought and the works of Spenser.



**337 17th Century Poetry and Prose (3)**

A survey of the major writers of the period from 1603 to 1660 exclusive of Milton.

**338 The Drama of the Restoration and the 18th Century (3)**

A study of representative plays of the Restoration and the 18th century. Emphasis will be placed on the development of such dramatic movements as the heroic play, Restoration comedy, and sentimental drama.

**341 Milton (3)**

An intensive study of the poetry and prose in the light of Milton's intellectual development.

**342 The Age of Reason in English Literature (3)**

Swift, Pope, Johnson, Boswell, Addison, and Steele. The Restoration, the Age of Reason, and foreshadowings of Romanticism.

**343 The Romantic Movement in English Literature (3)**

Burns, Blake; Wordsworth, Coleridge; Byron, Shelley, and Keats. The reaction against rationalism, the rise of revolutionary and liberal thought, humanitarianism, and emphasis on individual creativity.

**344 The Literature of the 19th Century after 1830 (3)**

A study of literature in its relationship to the problems which emerge from the social, cultural, scientific, and industrial revolutions of the Victorian period.

**345 The Development of the English Novel through Jane Austen (3)**

A study of the English novel from its beginnings to the 19th century considering such novelists as Defoe, Richardson, Fielding, Sterne, and Austen.

**346 The Development of the 19th-Century English Novel (3)**

A study of such novelists as the Bröntes, Thackeray, Dickens, Eliot, and Hardy.

**351 Science Fiction (3)**

Prerequisite: English 101. The study of science fiction as a genre, including future-scene fiction, the utopian novel, the superman novel, and short fantasy stories.

**352 African Literature (3)**

African literature written in the English language, with special emphasis on the fiction, poetry, and drama of the new nations. (Same as Comparative Literature 352)

**353 Black Writers in America (3)**

A study of black American writers from Frederick Douglass to the present. Concentration on important figures such as Wright, Ellison and Baldwin.

**364 Seminar in Writing (3)**

Prerequisites: evidence of student's previous interest in creative writing and consent of the instructor. Study of superior models, development of style, and group criticism and evaluation of each student's independent work. Depending on the specialized writing field of the instructor, the various sections will concentrate on fiction, plays, or poetry. May be repeated for credit.

**391 Survey of English Literary Criticism (3)**

A study of the major English critics from the Renaissance to the modern. Emphasis on Sidney, Dryden, Johnson, Coleridge, Arnold and Eliot.

**421 Minority Images in American Literature (3)**

An examination of 19th- and 20th-century literature written by and about racial groups in America. Includes *Uncle Tom's Cabin*, *Soul on Ice* and *Laughing Boy*.

## English

### 433 Children's Literature (3)

A study of masterpieces of the world's literature for children. Illustrates literary qualities appealing to children and demonstrates the ways in which children's literature reflects the particular cultural differences of the various Oriental, classical and modern cultures.

### 435 Studies in Shakespeare (3)

Prerequisite: English 334 or consent of the instructor. An intensive study of selected plays with primary emphasis upon problems of dramatic structure and artistic meanings.

### 445 The American Tradition in Poetry (3)

A study of selected American poets from the 17th century to 1914. Emphasis on the close reading of individual poems.

### 446 The American Novel to 1914 (3)

A study of selected novelists from C. B. Brown, through Melville and Twain, to Dreiser.

### 451 Philosophical Backgrounds of Modern Literature (3)

(Same as Interdisciplinary Center 451)

### 452 Modern Literary Criticism (3)

Prerequisite: upper division standing or consent of the instructor. A study of the major movements in 20th-century British and American criticism.

### 462 Modern British and American Novels (3)

Prerequisites: survey of English, American, or world literature; an upper division literature course; or consent of the instructor. The development of modern British and American novels from 1900 to 1950.

### 463 Contemporary British and American Novels (3)

The novel in English since World War II.

### 464 Modern British and American Drama (3)

Prerequisites: survey of English, American, or world literature; an upper division literature course; or consent of the instructor. The development of British and American drama from 1900 to the present.

### 466 Modern British and American Poetry (3)

Prerequisite: survey of English, American or world literature; an upper division literature course; or consent of the instructor. The development of British and American poetry from 1900 to the present.

### 490 History of the English Language (3)

Prerequisite: senior or graduate standing. The historical development of English vocabulary, phonology, morphology, and syntax from Indo-European to modern American English.

### 491 Senior Seminar (3)

Prerequisite: an undergraduate course in the area to be studied, a B average or better in English courses, or consent of the instructor. Directed research and writing, group discussion, and lectures covering selected topics from language studies, intensive studies of major writers, criticism, and literary types, periods, and ideological trends.

### 499 Independent Study (3)

Open to advanced students in English with the consent of the department chairman. May be repeated for credit.



**570 Graduate Seminar: Language Studies (3)**

Directed research and writing, group discussion, and lectures covering philology, historical development, and structure of English. Individual offerings under this course number may deal with only one aspect of language studies. The student should consult his advisor and the schedule of classes for the sections appropriate to his graduate program. This course number may be repeated with different content for additional credit.

**571 Graduate Seminar: Major Writers (3)**

As appropriate to the specialized research and publication of the instructor, this course will offer directed research and writing, group discussion, and lectures covering major figures such as: Shakespeare, Milton, Chaucer, Melville, Twain, Hawthorne, Joyce, and Coleridge. The student should consult his adviser and the schedule of classes for the sections appropriate to his graduate program. This course number may be repeated with different content for additional credit.

**572 Graduate Seminar: Literary Genres (3)**

As appropriate to the specialized research and publication of the instructor, this course will offer directed research and writing, group discussion and lectures, covering such major literary types as: the epic, the novel, the short story, lyric poetry, tragedy, comedy, and historical drama. The student should consult his adviser and the schedule of classes for sections appropriate to his graduate program. This course number may be repeated with different content for additional credit. (Same as Theatre 573)

**573 Graduate Seminar: Cultural Periods (3)**

As appropriate to the specialized research and publication of the instructor, this course will offer directed research and writing, group discussion, and lectures covering the literature of a particular cultural period from the Anglo-Saxon to modern times. The student should consult his adviser and his schedule of classes for the sections appropriate to his graduate program. This course number may be repeated with different content for additional credit.

**574 Graduate Seminar: Special Problems in Literature (3)**

As appropriate to the specialized research and publication of the instructor, this course will offer directed research and writing, group discussion, and lectures covering special problems such as: the detailed critical study of varying influences on literature, including philosophical, religious, scientific, geographic, and other ecological viewpoints. The student should consult his adviser and his schedule of classes for the sections appropriate to his graduate program. This course number may be repeated with different content for additional credit.

**579 Graduate Seminar: Problems in Criticism (3)**

Directed research and writing, group discussion, and lectures covering historical development and schools of criticism. Individual offerings within this course number may deal with only one aspect of critical problems. The student should consult his adviser and the schedule of classes for the sections appropriate to his graduate program. This course number may be repeated with different content for additional credit.

**599 Independent Graduate Research (3)**

Research projects in areas of specialization beyond regularly offered course work. Oral and written reports. This course number may be repeated with different content for additional credit.

## ENGLISH EDUCATION

### **442 Teaching English in the Secondary School (2)**

Prerequisites: Education 311, admission to teacher education. Principles, methods, and materials of teaching English in the secondary school. The student who has not had teaching experience must register concurrently in Education 449.

### **749 Student Teaching in English in the Secondary School and Seminar (6)**

See page 269 for description and prerequisites.

## FOREIGN LANGUAGES EDUCATION

(Offered by the Department of Foreign Languages and Literature)

### **432 Teaching Foreign Languages in the Elementary School (2)**

Methods of teaching FLES: foreign languages in elementary schools. Critical review of materials, audiolingual-visual aids, and current research. Conducted in English, with practice by students in the language they plan to teach.

### **433 Electromechanical Aids in the Foreign Language Classroom (1)**

Principles and techniques of advanced electromechanical, auditory, visual and programmed learning devices in foreign language instruction. Special emphasis on instructional television and the language laboratory.

### **442 Teaching Foreign Languages in the Secondary School (2)**

Prerequisites: Education 311 and 340; French, German, or Spanish 466; and admission to teacher education. Also open to experienced teachers. The student who has not had teaching experience must register concurrently in Education 449. See page 131 under Secondary Education for description of Standard Teaching Credential program. The theory and practice of language learning and language teaching with special emphasis on the audiolingual method in combination with electromechanical aids. Conducted in English, with practice by students in the language they plan to teach. Required, before student teaching, of students presenting majors in foreign languages for the standard teaching credential with a specialization in secondary education.

### **749 Student Teaching in Foreign Languages in the Secondary School and Seminar (6)**

See page 269 for description and prerequisites.

## FRENCH

(Offered by the Department of Foreign Languages and Literatures)

### **101 Fundamental French (5)**

Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of French. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in French.

### **102 Fundamental French (5)**

Prerequisite: French 101 or equivalent. Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of French. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in French.

### **203 Intermediate French (3)**

Prerequisite: French 102 or equivalent. Intensive practice in speaking, understanding, reading, and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in French.



**204 Intermediate French (3)**

Prerequisite: French 203 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in French.

**213 Intermediate Composition (2)**

Practice in written expression based on cultural and literary materials. May be taken concurrently with French 203. Required of all majors and minors at the intermediate level; optional to others. Conducted in French.

**214 Intermediate Composition (2)**

Practice in written expression based on cultural and literary materials. May be taken concurrently with French 204. Required of all majors and minors at the intermediate level; optional to others. Conducted in French.

**300 French Conversation (2)**

Prerequisites: French 204 and 214 or equivalent. This course will enable the student to develop further his oral control of the language in the context of his own or contemporary concerns rather than in the context of the subject matter of a French major. Conducted in French. (1 hour lecture, 2 hours activity)

**303 Readings in Scientific French (3)**

Prerequisite: French 102 or equivalent. Readings reflecting a broad spectrum of writing in the physical and natural sciences and mathematics. Special attention given to the development of rapid reading for comprehension. Open only to science and mathematics majors.

**315 Introduction to French Civilization (3)**

Prerequisite: French 204 or equivalent. Reading and discussions to develop a view of the French tradition (its social, intellectual and literary evolution) while at the same time strengthening facility with the language. Open to lower division students with the consent of the instructor. Conducted in French.

**317 Advanced Composition and Grammar (3)**

Prerequisite: French 204 or equivalent. Designed to give the student special competence in the control of French as an instrument for free oral and written expression. Conducted in French.

**318 Advanced Composition and Grammar (3)**

Prerequisite: French 317 or equivalent. Designed to give the student special competence in the control of French as an instrument for free oral and written expression. Conducted in French.

**325 Contemporary French Civilization (3)**

Prerequisite: French 204 or equivalent. Reading and discussion to develop understanding of the social and intellectual problems, trends, and contributions of present-day France, while at the same time strengthening facility with the language. Open to lower division students with the consent of the instructor. Conducted in French.

**375 Introduction to Literary Forms (3)**

Prerequisite: French 317 or consent of instructor. An introduction to the principal literary forms, prose fiction, poetry, drama and the essay and to the major concepts of the literary techniques and criticism. Close analysis and interpretation of various texts to increase the student's abilities in reading, language, and literary criticism. Conducted in French.

## French

### 400 French for Advanced Students and Teachers (3)

Prerequisite: French 317 or consent of instructor. Intensive review of spoken French, while developing the student's powers of self-expression in the spoken and written language. Conducted in French.

### 431 French Literature in the Middle Ages and Renaissance (3)

Prerequisite: French 315 or consent of instructor. The development of French literature from the 12th through the 16th centuries, through analysis of representative works. Conducted in French.

### 441 French Literature in the Century of Revolution (3)

Prerequisite: French 315 or consent of instructor. The principal authors and movements (romanticism, realism, naturalism, symbolism) of the 19th century. Conducted in French.

### 451 French: Literature in the Baroque and Classic Age (3)

Prerequisite: French 315 or consent of instructor. The essence and evolution of 17th-century classicism, studied principally in the major authors (Corneille, Molière, Racine, La Fayette) and in the dominant genre (the theater). Conducted in French.

### 461 French Literature in the Age of Enlightenment (3)

Prerequisite: French 315 or consent of instructor. Two complementary aspects of the 18th century: reason and feeling, the *philosophes* and the current of sensibility. Emphasis on major authors (Marivaux, Voltaire, Diderot, Rousseau, Laclos). Conducted in French.

### 466 Introduction to French Linguistics (3)

The analytical procedures of general linguistics as applied to French, with special attention to structural contrasts between French and English. Emphasis on the application of linguistic analysis to the teaching of modern foreign languages.

### 471 Senior Seminar: Contemporary French Literature (3)

Prerequisite: French 315 or consent of instructor. The major figures of the 20th century, including the generations of Proust, Apollinaire, Malraux, Sartre and Robbe-Grillet. Conducted in French.

### 485 Senior Seminar in French Literature (3)

Prerequisite: French 431, 441, 451, 461, or senior status. Exploration of a literary current, period, author, genre or problem. The subject will change each time the course is given and may be repeated for credit. Conducted in French.

### 492 Literature of Action in 20th-Century France (3)

Selected works read, discussed and analyzed in the light of current philosophical trends as well as historical and political developments. The works studied might include such titles as: *The Counterfeiters* (Gide); *Man's Fate* and *The Temptation of the West* (Malraux); *The Wall* and *What is Literature* (Sartre); *The Plague and Resistance*, *Rebellion and Death* (Camus); *Wind, Sand and Stars* and *A Sense of Life* (Saint-Exupéry). Readings and lectures in English. This course may not be counted toward fulfillment of the requirements for the major in French.

### 499 Independent Study (1-3)

Supervised projects in French language or literature to be taken with the consent of the instructor and department chairman. May be repeated for credit.

### 500 Graduate Seminar: Advanced Structure and Style (3)

Prerequisite: Consent of instructor. Conducted in French.



**510 Graduate Seminar: Phonology (3)**

Prerequisite: French 466 or consent of instructor. Conducted in French.

**520 Old French (3)**

Prerequisite: Consent of instructor. Readings in the medieval literature of northern France representing a wide variety of dialects and centuries. Conducted in French.

**530 Graduate Seminar: Historical Linguistics (3)**

Prerequisite: French 466 or consent of the instructor. It is highly recommended that the student have had some previous study of Latin. Studies in the phonetic, morphological, syntactic and semantic changes that characterize the development of Latin into the French of today. Conducted in French.

**557 Graduate Seminar: French Poetry (3)**

Prerequisite: Consent of instructor. Conducted in French.

**571 Graduate Seminar: French Prose (3)**

Prerequisite: Consent of instructor. Conducted in French.

**575 Graduate Seminar: French Drama (3)**

Prerequisite: Consent of instructor. Conducted in French.

**576 Graduate Seminar: Major Writers (3)**

Prerequisite: Consent of instructor. May be repeated for credit. Conducted in French.

**598 Thesis (3-6)**

Prerequisite: Recommendation of the student's graduate committee.

**599 Independent Graduate Research (1-3)**

Prerequisite: Fluency in French and consent of instructor. Supervised research projects in French language or literature. May be repeated for credit.

**GEOGRAPHY**

**100 Man and the Land (3)**

An introductory geography of the world, with emphasis on the world's major physical regions and their occupational development by man.

**206 Physical Geography (4)**

A study of the basic elements of the physical environment (e.g., weather, climate, landforms, oceans, vegetation and soils) and an analysis of their world distribution and interrelationships. (3 hours lecture, 2 hours activity)

**210 Cultural Geography (3)**

A topical examination of the evolutionary role of culture in the human occupancy of the earth, focusing on changing technological and organizational patterns in livelihood and settlement.

**233 Economic Geography (3)**

A systematic inquiry into the world distribution of economic activities: agriculture, extractive and manufacturing industries, transportation and tertiary services.

**312 Geomorphology (3)**

Prerequisite: Geography 206 or Geology 100A. A study of the development of landforms and the processes which alter them. (2 hours lecture, 2 hours activity)

## Geography

### 323 Climatology (3)

Prerequisite: Geography 206 or consent of instructor. A study of atmospheric elements and controls, climatic classification systems, and world climatic distributions. (2 hours lecture, 2 hours activity)

### 343 Maps and Map Interpretation (3)

Interpretation, evaluation, uses, and sources of various types of maps and graphic aids for teaching and research. (2 hours lecture, 2 hours activity)

### 350 Conservation of the American Environment (3) (Formerly 450)

Prerequisite: upper division standing. A survey of resource-use problems and the principles of conservation, with discussions of philosophy, ethics, public policy, and conservation education. Type studies and term papers focus on the American West.

### 365 Geography of Europe (3) (Formerly 433)

Prerequisite: upper division standing. Description and analysis of physical environments and human occupancy patterns in Europe west of the Soviet Union.

### 366 Geography of the Soviet Union (3) (Formerly 438)

Prerequisite: upper division standing. Character of and bases for the regional diversity of man and land in the Soviet Union.

### 370 Urban Geography (3) (Formerly 471)

Prerequisite: upper division standing. The city as a geographic unit; urban settlements as regional centers; city-region relationships; the structure of villages, towns and cities, and their historical development; case studies.

### 431 Geography of California (3)

Description and analysis of the geographic regions of California—their environmental diversity, population distribution, economic development and current problems.

### 432 Geography of Anglo-America (3)

Prerequisite: Geography 100 or consent of instructor. A regional study of the United States and Canada emphasizing the interrelated physical and cultural features that give geographic personality both to the individual regions as well as the individual countries.

### 434 Geography of Latin America (3)

Prerequisite: Geography 100 or consent of instructor. A systematic and regional survey of Middle and South America with particular emphasis on the interrelationships of the physical and social factors of the area.

### 435 Geography of Asia (3)

Prerequisite: Geography 100 or consent of instructor. A regional study of Asiatic nations, exclusive of the Soviet Union and Southwest Asia, showing the interrelationships of physical and cultural characteristics with special emphasis on the growing significance, in economic, social, and political terms, of such countries as China, India and Japan.

### 436 Geography of Subsaharan Africa (3)

Prerequisite: Geography 100 or consent of instructor. The physical, human, and regional geography of Africa south of the Sahara.

### 439 Geography of the Middle East (3)

Prerequisite: Geography 100 or consent of instructor. The physical foundations and cultural landscapes of civilization in the Middle East, with emphasis on contemporary political, socioeconomic, and cultural changes.



**445 Australia and the Pacific Islands (3)**

Prerequisite: Geography 100 or consent of instructor. The physical, cultural, and regional geography of Australia, New Zealand, Melanesia, Micronesia and Polynesia.

**453 Cultural Ecology (3)**

Prerequisite: Geography 210 or Anthropology 202, or consent of instructor. A senior seminar in the ecological approach to man in nature. (Same as Anthropology 453)

**463 Problems of California Geography (3)**

Prerequisite: Geography 431 or consent of instructor. A seminar analyzing selected geographic problems of California, such as urbanization, transportation, water supply and pollution.

**464 Man and Geographic Relationships in Latin America (3)**

Prerequisite: Geography 434 or consent of instructor. A seminar for advanced students in Latin American Studies or Geography. Studies of contemporary interest dealing with man and his development in the area of Latin America. Specific content of the course will vary from year to year, but major stress will be placed upon the larger countries of the region.

**472 Urban Growth and Planning (3)**

Prerequisite: Geography 370 or consent of instructor. A senior seminar on urban development with an emphasis on the decentralizing forces operating in contemporary urban space; identification of trends in the planning process.

**475 Land Use Analysis and Classification (3)**

Prerequisite: senior or graduate standing and completion of the Geography core. Consent of the instructor is required. Analysis and interpretation of urban and rural land use and settlement with specific references to geographic field problems. The course involves application of geographic techniques and tools to local field studies. Saturday field sessions.

**478 Cartography (3)**

Prerequisite: Geography core or consent of instructor. Compilation and construction of maps and graphs as geographic tools, with emphasis on the principles of effective cartographic representation. (1 hour lecture, 6 hours laboratory)

**479 Airphoto and Image Interpretation (3)**

Prerequisite: junior, senior or graduate standing and consent of instructor. Use of aerial photography, space photography and other remote sensors as tools and research sources. Emphasis on interpretation of physical and cultural elements of the landscape. (2 hours lecture, 2 hours activity)

**480 Problems in Map Compilation and Design (3)**

Prerequisite: Geography 478 and consent of the instructor. Application of scribing and photo-cartographic techniques to advanced problems in map compilation and design. (1 hour lecture, 6 hours laboratory)

**481 Political Geography (3)**

Prerequisite: Geography 210 or consent of instructor. The political map of the world with special reference to the geopolitical structure of states, dependencies, and other politically organized areas.

**483 Seminar in Historical Geography (3)**

Prerequisite: Geography core or consent of instructor. The seminar will study a number of geographic sites and situations as products of change through time.

## Geology

The change will be examined under themes including theory and viewpoints, physical and cultural evolution. A research project on a local area will be required.

### 490 Geographic Research and Presentation (3)

Prerequisite: Geography core and consent of instructor. A senior seminar in research methods, with discussions of major research themes, data-gathering, writing, editing, printing, bibliographic citation, manuscript format, and presentation. Students prepare several short papers and one major research study.

### 499 Independent Study (1-3)

Open to advanced students. Student must have permission of instructor under whom study will be undertaken before enrolling. May be repeated once for credit.

### 500 Seminar in the Evolution of Geographic Thought (3)

Prerequisite: graduate standing, or consent of instructor. An inquiry into the nature, scope, and development of the geographic discipline.

### 513 Seminar in Regional Geography (3)

Prerequisite: graduate standing or consent of instructor. A seminar on selected regions or selected topics within a regional setting. May be repeated once for credit.

### 523 Seminar in Human Geography (3)

Prerequisite: graduate standing or consent of instructor. A seminar on selected topics pertaining to cultural, political or social geography. May be repeated once for credit.

### 533 Seminar in Resource Geography (3)

Prerequisite: graduate standing or consent of instructor. A seminar on selected problems in resource utilization, land use planning and economic geography. May be repeated once for credit.

### 597 Project (1-3)

May be repeated for a maximum of 6 units of credit.

### 598 Thesis (1-3)

Prerequisite: Recommendation of the student's graduate committee. May be repeated for a maximum of 6 units of credit.

### 599 Independent Graduate Research (1-3)

Open to graduate students by consent of instructor. May be repeated for credit.

## GEOLOGY

(See Earth Science)

## GERMAN

(Offered by the Department of Foreign Languages and Literatures)

### 101 Fundamental German (5)

Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structures of German. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in German.

### 102 Fundamental German (5)

Prerequisite: German 101 or equivalent. Intensive practice in listening comprehension, speaking, reading, and writing to develop control of the sounds and the basic forms and structure of German. Audiolingual assignments are an integral



part of the course and are to be prepared in the language laboratory. Conducted in German.

**203 Intermediate German (3)**

Prerequisite: German 102 or equivalent. Intensive practice in speaking, understanding, reading, and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in German.

**204 Intermediate German (3)**

Prerequisite: German 203 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in German.

**213 Intermediate Composition (2)**

Practice in written expression based on cultural and literary materials. May be taken concurrently with German 203. Required of all majors and minors at the intermediate level; optional to others. Conducted in German.

**214 Intermediate Composition (2)**

Practice in written expression based on cultural and literary materials. May be taken concurrently with German 204. Required of all majors and minors at the intermediate level; optional to others. Conducted in German.

**303 Readings in Scientific German (3)**

Prerequisite: German 102 or equivalent. Readings reflecting a broad spectrum of writing in the physical and natural sciences and mathematics. Special attention given to the development of rapid reading for comprehension. Open only to science and mathematics majors.

**315 Introduction to German Civilization (3)**

Prerequisite: German 204 or equivalent. Readings and discussions in German literature, arts and institutions to develop insights into German culture, while strengthening facility with the language. Open to lower division students with the consent of the instructor. Conducted in German.

**317 Advanced Conversation and Composition (3)**

Prerequisite: German 204 or equivalent. Open to lower division students with the consent of the instructor. Designed to give the student special competence in the control of German as an instrument of free oral and written expression. Conducted in German.

**325 Modern German Thought in Science and Culture (3)**

Prerequisite: German 204 or equivalent. Readings and discussion of modern German thought in science, literature, philosophy and art, designed to acquaint the student with a broad range of German contributions to present-day civilization while strengthening facility with German language. Open to lower division students with consent of instructor. Conducted in German.

**375 Introduction to Literary Forms (3)**

Prerequisite: German 317 or consent of instructor. An introduction to the principal literary forms, prose fiction, poetry, drama and the essay and to the major concepts of literary techniques and criticism. Close analysis and interpretation of various texts to increase the student's abilities in reading, language, and literary criticism. Conducted in German.

**399 German Phonetics (1)**

Prerequisite: junior standing and consent of instructor. Detailed analysis of individual problems in pronunciation followed by intensive work in class and the language laboratory. May be repeated for credit. Conducted in German.

## German

### 400 German for Advanced Students and Teachers (3)

Prerequisite: German 317 or consent of instructor. Intensive review of German while developing the student's powers of self-expression in the spoken and written language. Conducted in German.

### 431 The Works of Lessing and Schiller (3)

The major works of Lessing and Schiller illustrating their thought and art. Conducted in German.

### 441 The Works of Goethe (3)

Selected works of Goethe illustrating his thought and art. Conducted in German.

### 451 German Literature to the Baroque (3)

Important works from the *Hildebrandslied* to *Simplicissimus* in the setting of their intellectual and historical climate. Conducted in German.

### 461 German Literature Since Goethe (3)

Important works illustrating the development from romanticism to expressionism in the setting of their intellectual and historical climate. Conducted in German.

### 466 Introduction to German Linguistics (3)

The analytical procedures of general linguistics as applied to German, with special attention to structural contrasts between German and English. Emphasis on the application of linguistic analysis to the teaching of modern foreign languages.

### 485 Senior Seminar in German Literature (3)

Prerequisite: senior standing in German and consent of instructor. Research and discussion in depth of a literary movement, a genre or an author. Subject will vary and will be announced in the class schedule. Topics offered in past years have included the Baroque, the *Novelle*, Brecht, Modern Drama, Keller, Poetic Realism, Romantic Period. May be repeated for credit with a different topic. Conducted in German.

### 492 German Literature in Translation (3)

Open to all students. Reading, discussion and interpretation of relevant German literature with emphasis on determining the specific contribution these works have made to world literature and the shaping of global philosophies. Authors include Goethe, Schiller, Kafka, Hesse, Mann, Brecht, Grass, Hauptmann. Readings and lectures in English. This course may not be counted toward fulfillment of the requirements for the major in German.

### 499 Independent Study (1-3)

Supervised research projects in German language or literature to be taken with the consent of the instructor and the department chairman. May be repeated for credit.

### 500 Graduate Seminar: Advanced Structure and Style (3)

Prerequisite: consent of instructor. Conducted in German.

### 510 Graduate Seminar: Phonology (3)

Prerequisite: German 466 or consent of instructor. Conducted in German.

### 530 Graduate Seminar: Historical Linguistics (3)

Prerequisite: German 466 or consent of instructor. Conducted in German.

### 557 Graduate Seminar: German Poetry (3)

Prerequisite: consent of instructor. May be repeated for credit with a different topic. Conducted in German.



**571 Graduate Seminar: German Prose (3)**

Prerequisite: consent of instructor. Subject will vary and will be announced in the class schedule. May be repeated for credit with a different topic. Conducted in German.

**575 Graduate Seminar: German Drama (3)**

Prerequisite: consent of instructor. Subject will vary and will be announced in the class schedule. May be repeated for credit with a different topic. Conducted in German.

**576 Graduate Seminar: Major Writers (3)**

Prerequisite: consent of instructor. Subject will vary and will be announced in the class schedule. May be repeated for credit with a different topic. Conducted in German.

**598 Thesis (3-6)**

Prerequisite: recommendation of the student's graduate committee.

**599 Independent Graduate Research (1-3)**

Prerequisite: fluency in German and consent of instructor. Supervised research projects in German language or literature. May be repeated for credit.

**HEBREW**

**101 Fundamental Hebrew (3)**

Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic structure of Hebrew.

**102 Fundamental Hebrew (3)**

Prerequisite 101. Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic structure of Hebrew.

**499 Independent Study (1-3)**

Supervised projects in Hebrew language or literature to be taken with the consent of the instructor and department chairman. May be repeated for credit.

**HISTORY**

**110A World Civilizations to the 17th Century (3)**

The story of man from the beginning of civilizations and historical records until the middle of the 17th century.

**110B World Civilizations from 1648 (3)**

The story of man from the end of the religious wars to the present. Deals with the rise of science, the Enlightenment, the Industrial Revolution, and the rise of the ideologies of the 20th century.

**170A United States to 1877 (3)**

A survey of the political, social, economic, and cultural development of the United States from the discovery to 1877. Attention is given to the Old World background, the rise of the new nation, sectional problems, and the Civil War and Reconstruction. Satisfies the state requirement in U.S. History.

**170B United States Since 1877 (3)**

A survey of United States history from the late 19th century to the present. Attention is given to economic transformation, political reform movements, social, cultural, and intellectual changes, and the role of the United States in world wars and the Cold War. Satisfies the state requirement in U.S. History.

## History

### **340A History of England and Great Britain (3)**

A study of the political, economic, and social history of medieval and Tudor-Stuart England. Particular stress is placed on institutional and cultural changes from the Conquest to the Glorious Revolution.

### **340B History of England and Great Britain (3)**

A study of the political, economic, and social history of Great Britain from the later Stuarts to the present. Particular stress is placed upon the modification of the parliamentary system and the growth of economic and social democracy within Britain and upon the development of responsible political systems in the dependent territories.

### **350A Colonial Latin America (3)**

A survey of the pre-Columbian cultures; the conquests by Spain and Portugal and the European background of these countries; the development of the socio-economic, cultural, and governmental institutions in colonial life; the background of revolutions and the wars for independence.

### **350B Republican Latin America (3)**

A survey of the Latin American republic since 1826, emphasizing the struggle for responsible government, socioeconomic, and cultural changes, and the role of United States foreign policy.

### **383 History of California (3)**

A survey of the political, economic, and social history of California from the aboriginal inhabitants to the present, tracing the development of contemporary institutions and the historical background of current issues.

### **399 Historiography (3)**

Introduction to nature and discipline of history. A study of methods of historical research and writing, of bibliography, and of major problems of historical interpretation. Required of history majors.

### **401 European Intellectual History from 1500 to the Present (3)**

Prerequisite: consent of instructor. The history of the competing ideas in European history from 1500 to the present which have entered into the formation of modern European institutions.

### **412A Ancient Near East—Mesopotamia (3)**

Prerequisite: History 110A. A study of the political, socioeconomic, religious, and literary history of Mesopotamian culture from the rise of the Sumerian city-states to Alexander the Great, a period of over three millennia. This will include discussion of the Sumerians, Assyrians, Babylonians, Hurrians, and Persians.

### **412B Ancient Near East—East Mediterranean (3)**

Prerequisite: History 110A. A study of ancient Egypt from early dynastic times in the third millennium B.C. to the conquest of Alexander the Great. The history of the Syro-Palestinian region will be studied in light of its migrations and international culture. A careful study of the Hebrews and their contributions to modern civilization will be included.

### **415A Classical Greece (3)**

Prerequisite: History 110A or consent of instructor. A study of the civilization of ancient Greece. This course traces the rise and flourishing of the classical city-states; considerable attention is devoted to the literary and philosophic contributions to our modern civilization.



**415B Hellenistic Civilization (3)**

Prerequisite: History 110A or consent of instructor. A study of the Hellenistic synthesis and the new patterns in government, the arts and sciences, philosophy and literature that appeared between the Macedonian conquest and the intervention of Rome.

**417A Roman Republic (3)**

Prerequisite: History 110A or consent of instructor. A study of the development of Roman social and political institutions under the republic.

**417B Roman Empire (3)**

Prerequisite: History 110A or consent of instructor. A study of Roman imperial institutions and culture. Attention is also given to the rise of Christianity.

**419 The Byzantine Empire (3)**

The rise and fall of Byzantium from the 4th century A.D. until the 15th century A.D. This will include a study of Byzantine society and its contribution to the world.

**423A Medieval Europe, 300-1050 (3)**

Prerequisite: History 110A. The genesis of European society and culture from the decline of Rome to the mid-11th century: the medieval church, the Barbarian migrations, the Byzantine and Islamic cultures and the establishment of feudalism in western Europe.

**423B Medieval Europe, 1050-1400 (3)**

Prerequisite: History 110A. A continuation of History 423A. The struggle between church and state, the rise of feudal monarchies and the intellectual, scientific and artistic expressions of European civilization in the later Middle Ages.

**425A The Renaissance (3)**

Prerequisite: consent of instructor. The history of Europe from 1400 to 1525 with emphasis upon the beginnings of capitalism, the beginnings of the modern state, humanism, the pre-Reformation and the church on the eve of the Reformation.

**425B The Reformation (3)**

Prerequisite: consent of instructor. The history of Europe from 1525 to 1648; deals with the Protestant and Catholic Reformations; the religious wars; the price rise; royal absolutism; the rise of science.

**426 Rise of Modern Europe, 1648-1763 (3)**

Prerequisite: History 110B. European diplomatic history and the balance of power from 1648 to 1763. Attention is given to the social and philosophical developments of the period.

**427 Europe in the Era of the French Revolution and Napoleon (3)**

A survey of European history from 1763 to 1815. Emphasis is placed on the politics, society, and culture of the Old Regime, the influence of the Enlightenment, the impact of the French Revolution on Europe, and the establishment of French hegemony by Napoleon.

**428 19th Century Europe (3)**

Europe from 1815 to 1914. An examination of the political, economic, social, and cultural trends in European history from the Congress of Vienna to the outbreak of World War I. Special attention is given to the emerging forces of nationalism, liberalism, socialism, and secularism.

## History

### 429 Europe Since 1914 (3)

Prerequisite: History 110B. Survey of events from the beginning of World War I to the present. Special emphasis given to the economic, political, social, diplomatic, and intellectual trends of 20th century Europe.

### 432 Germany Since 1648 (3)

Prerequisite: History 110A-B. The evolution of Germany from the Peace of Westphalia to the present. Emphasis is placed on political, social, economic, diplomatic and cultural trends in the 19th and 20th centuries.

### 434A Russia to 1890 (3)

Prerequisite: History 110B. An analysis of the historical developments from the establishment of the Russian state at Kiev through the great reforms, the revolutionary movement and reaction of the 19th century. Emphasis is placed upon the shaping of contemporary Russia.

### 434B The Russian Revolutions and the Soviet Regime (3)

An evaluation of the 1905 and 1917 revolutions and the subsequent consolidation of power under the Communist regime. Chief emphasis is placed upon the continuity and change in Russian social, political, cultural institutions and foreign policy effected by the impact of Marxist-Leninist-Stalinist ideology.

### 437 East Europe Since 1500 (3)

The political, social, economic, and cultural history of the peoples of East Central Europe from 1500 to the present.

### 439 History of Spain (3)

Development of Hispanic civilization from the earliest times to the present.

### 440 Change in Contemporary Latin America (3)

An analysis of political, social and economic change in present-day Latin America.

### 453A Mexico to 1910 (3)

A history of Mexico from the pre-Columbian period to 1910. The course stresses the Indian heritage, the impact upon the native civilizations of the Spanish Conquest and the blending of Hispanic Institutions with those of the first Mexicans. The uniqueness of Mexican culture in the world as expressed in its art, literature, religion and philosophy will be examined in detail.

### 453B Mexico Since 1910 (3)

A study of the background of the Mexican Revolution of 1910 and the revolution itself from 1910 to 1921 stressing the political, economic, and social features; special attention will be paid to the Revolution as the first of the great upheavals of the 20th century and the relationship of the United States to Mexico during these turbulent years. The quest for political stability in the 1920s and 1930s along economic and social changes will be studied but stress will also be placed on cultural renaissance of modern Mexico.

### 454 Argentina, Brazil, Chile (3)

A history of Argentina, Brazil, and Chile, with special attention to Chile.

### 456 Tropical Africa to 1900 (3)

The history of tropical Africa from earliest times to the colonial era.

### 457 Tropical Africa in the 20th Century (3)

A study of the impact of the colonial period upon the peoples of tropical Africa including a comparative analysis of the various systems of colonial administration;



the factors contributing to the rise of African nationalism and the achievement of independence; and the problems encountered by these new nations.

## **458A Southern Africa from Earliest Times to the 20th Century (3)**

A study of the culture and history of the indigenous peoples of southern Africa; and the development and impact of European interests in this area with particular emphasis on the history of South Africa to the Union of 1910.

## **458B Southern Africa in the 20th Century (3)**

A survey of 20th-century developments in the Union (Republic) of South Africa, Central Africa (the Rhodesias and Nyasaland) and the Portuguese colonies with emphasis on the political, economic and social ramifications of race relations.

## **460 Problems of the Contemporary Far East (3)**

A topics course dealing with events in the major Far Eastern nations since World War II, with emphasis upon problems of nationalism, communism and economic development in China, Japan, Korea and Southeast Asia.

## **461A The Far East (3)**

A study of the political, social and economic conditions in China, Japan and Korea prior to World War I, as well as the rise of American power in the Far East.

## **461B The Far East (3)**

A study of the developments in China and Japan that led to the Sino-Japanese conflict, Japan's decision to fight the United States, and the rise of Communist China.

## **462A History of China (3)**

A survey of Chinese history from antiquity until Western impact in the 19th century. The development of Chinese society, thought and political institutions.

## **462B History of China (3)**

A survey of Chinese history from the 1840s to the present, emphasizing the problems posed by the Western presence in China and the various processes of modernization which China has undergone.

## **463A History of Japan (3)**

A study of the social, political, and economic history of Japan until 1868, with emphasis upon the Tokugawa era.

## **436B History of Japan (3)**

A study emphasizing the rise of the modern Japanese state, Japanese imperialism and the postwar era.

## **464A Southeast Asia in the Modern World (3)**

A study of the social, political, and economic development in Southeast Asia from 1500 to the establishment of the colonial empires of the West in the 19th century.

## **464B Southeast Asia in the Modern World (3)**

A study of Southeast Asia under the impact of imperialism and the effects of decolonization.

## **465A History of India from the Beginning Through the Delhi Sultanate 1526 (3)**

A survey of the history of the Indian subcontinent from the earliest times to the fall of the Delhi Sultanate 1526.

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### **465B History of India from the Mughal Through the British Period, 1526–1947 (3)**

A survey of the history of the Indian subcontinent from the fall of the Delhi Sultanate up to Indian independence.

### **466A Arab Islamic Age (3)**

Prerequisite: History 110A. The study of the events transpiring in the Middle East from the Roman world to the period of the Crusades. This will include the impact of the Islamic civilization upon the Middle East society.

### **466B The Turkish World (3)**

Prerequisite: History 110B. The development of the countries of the Middle East following the Crusades to the present. This will include the Ottoman Empire, European colonialism in the Middle East, and the modern Middle East.

### **467 The Past and the Present in the Middle East (3) (Offered during some summer sessions only)**

This course is a study tour to one of three geographical areas in the Middle East. The three areas which will be visited during three different summer periods of 22 days each, are: North Africa consisting of Morocco, Algeria, Tunisia, Libya and Egypt; the East Mediterranean consisting of Greece, Lebanon, Jordan, Israel and Egypt; and Turkey, Iraq and Iran. The objective of these study tours goes well beyond a visitation of important historical and archaeological sites, and stresses continuities and relationships of the past to the contemporary scene.

### **468 Contemporary Middle East (3)**

A study of the social, political and economic changes taking place in the Middle East primarily since World War I. Where possible the Middle East will be treated as a whole and viewed through a topic-oriented approach.

### **470 American Colonial Civilization (3) (Formerly 471)**

Prerequisite: History 170A or consent of instructor. This course surveys the settlement of North America and the growth of Anglo-American civilization to the mid-18th century stressing the creation of political, economic, and social institutions and a distinctive American culture.

### **471 United States from Colony to Nation (3) (Formerly 472)**

Prerequisite: History 170A or consent of instructor. This course surveys the political, economic, and intellectual developments of 18th-century America with special emphasis upon Anglo-American imperial problems leading to the Revolution, the origins of American nationalism, the creation of a constitutional republic, and the rise of a party system.

### **472 Jeffersonian Themes in American Society, 1800–1861 (3)**

Prerequisite: History 170A or consent of instructor. Analyzes Jeffersonian values and their impact upon the social, political and cultural life of the nation during the era of their greatest relevance.

### **473 Democracy on Trial 1845–1877 (3)**

Slavery, sectionalism, and Civil War, and the impact of these forces upon national life and thought from 1815 to 1865.

### **474 America in the Age of the Industrial Revolution (1876–1914) (3)**

A study of the maturation of the American industrial economy and its transforming impact upon class structure, politics, intellectual and cultural life, and diplomacy. Special consideration is given to the attempts made in the Progressive years to cope with the changes wrought by the Industrial Revolution.



**475 America Comes of Age, 1914-1945 (3)**

A multi-topic analysis of major trends in U. S. domestic policy, foreign policy, economy and society from World War I through World War II. Course will concentrate on conflicting values and ideals of domestic policy and U.S. role in world affairs.

**476 Age of Power, Affluence and Anxiety Since 1945 (3)**

Multi-topic analysis of U. S. history from 1945 to the present stressing the interrelationship of foreign policy, economic prosperity, domestic tensions and protest movements.

**481 Westward Movement in the United States (3)**

Prerequisite: History 170A,B or equivalent. A survey of the expansion of the United States population and sovereignty from the eastern seaboard to the Pacific, colonial times to 1900, and a history of regional development during the frontier period.

**482A Socioeconomic History of the United States (3)**

Prerequisite: History 170A or consent of the instructor. The course explores the interaction of social and economic factors upon each other in the development of American society. Special attention is given to the role of business and labor in economic change. The first semester covers the development of a colonial economy and the early national economy.

**482B Socioeconomic History of the United States (3)**

Prerequisite: History 170B or consent of the instructor. The course continues to explore the interaction of social and economic factors upon each other in the development of American society. Special attention is given to the role of business and labor in economic change. The second semester begins with the "takeoff stage of economic development" and ends with contemporary America.

**484A American Constitutional History to 1865 (3)**

Prerequisite: History 170A. English and colonial origins, the growth of democracy, the slavery controversy, and the sectional conflict as they reflect constitutional development.

**484B American Constitutional History from 1865 (3)**

Prerequisite: History 170B. Constitutional problems involved in the post-Civil War era, the expansion of business, World War I, the New Deal, World War II, and civil rights in the postwar era.

**485A United States Foreign Relations to 1900 (3)**

A comprehensive survey of the foreign relations of the United States from the beginning of the nation until 1900. Particular attention is given to bases of policy, critical evaluation of major policies and relationships between domestic affairs and foreign policy.

**485B United States Foreign Relations from 1900 (3)**

Relations from 1900 to the present. An analysis of the rise of the United States as a world power in the 20th century with special emphasis on the search for world order and the diplomacy of the atomic age.

**486A Social and Intellectual History of the United States (3)**

A study of the social and intellectual development of the United States from the Puritans to the Civil War.

**486B Social and Intellectual History of the United States (3)**

A study of the social and intellectual development of the United States from the Civil War to the present.

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### **487A History of Politics in American Society (3)**

Prerequisite: History 170A,B or consent of instructor. The first semester of this course traces political developments from the Colonial Period to the end of the Civil War. Its primary focus is upon political patterns of behavior, institutional development and the response of the American political system to changing societal demands and needs.

### **487B History of Politics in American Society (3)**

Prerequisite: History 170A,B or consent of instructor. The second semester of the course traces political developments from Reconstruction to Lyndon Baines Johnson. Its primary focus is upon political patterns of behavior, institutional development and the response of the political system to changing societal demands and needs.

### **488A American Negro From Slavery to Jim Crow (3)**

History of black Americans from African backgrounds through slavery to late 19th century. Will include comparative study of slavery in several societies.

### **488B American Negro Since 1890 (3)**

History of black Americans from 1890 to present, stressing both their culture and role in American life and the issues involved in their relations with other segments of the population in various regions.

### **489 The Mexican-American in the Southwest (3)**

Historical role of the Mexican-American in the Southwest stressing the cultural uniqueness, contributions, with special emphasis upon migration, education, and economic changes since 1945.

### **491 Proseminar in Special Historical Topics (3)**

Intensive study of phases or periods of history involving occasional lecture, discussions, directed reading, and written reports.

### **492A Community History (3)**

Prerequisite: consent of instructor. A study of the historical development of communities in general, and of the Orange County area in particular. Special emphasis on the techniques of gathering and processing local historical data including oral interviews and other archival materials.

### **492B Community History (3)**

Prerequisite: History 492A. Community history studies continued. Special emphasis is on the gathering, editing and utilization of local community history documents.

### **499 Independent Study (1-3)**

Open to advanced students in history with the consent of the department chairman. May be repeated for credit.

### **501 Seminar in the Content and Method of History (3)**

Prerequisite: consent of the instructor.

### **505 Seminar in Analysis of Recent Interpretations in History (3)**

Prerequisite: consent of the instructor.

### **520 Seminar in European History (3)**

Prerequisite: consent of the instructor.

### **550 Seminar in Latin American History (3)**

Prerequisite: consent of the instructor.



**560 Seminar in Afro-Asian History (3)**

Prerequisite: consent of the instructor.

**570 Seminar in American History (3)**

Prerequisite: consent of the instructor.

**585 Seminar in the History of United States Foreign Relations (3)**

Prerequisite: consent of the instructor.

**590 History and Historians (3)**

Prerequisite: consent of instructor. A study of the writings, personalities, and philosophies of representative historians from Herodotus to the present.

**598 Thesis (3 or 6)**

Prerequisite: consent of instructor. May be repeated for credit.

**599 Independent Graduate Research (1-3)**

Open to graduate students in history with the consent of the department chairman. May be repeated for credit.

**INTERNATIONAL STUDY COURSES**

California State College, Fullerton students under the California State Colleges International Study Programs register concurrently at California State College, Fullerton and at the host institution abroad, with credits assigned to the student which are equivalent to courses offered at California State College, Fullerton. Undergraduate students who discover appropriate study opportunities at the host institution but no equivalent course at California State College, Fullerton may use Independent Study (499) and International Study 292 or 492. Graduate students may use Independent Graduate Research (599) and International Study 592.

**292 Projects in Study Abroad (Subject): (1-6 lower division units)**

Open to students enrolled in California State Colleges International Programs. Study undertaken in a university abroad under the auspices of the California State Colleges.

**492 Projects in Study Abroad (Subject): (1-3 upper division units; maximum 12)**

Open to students enrolled in California State Colleges International Programs. Study undertaken in a university abroad under the auspices of the California State Colleges.

**592 Projects in Study Abroad (Subject): (1-3 graduate units; maximum 12)**

Open to students enrolled in the California Colleges International Programs. Study undertaken in a university abroad under the auspices of the California State Colleges.

**ITALIAN**

(Offered by the Department of Foreign Languages and Literatures)

**101 Fundamental Italian (4)**

Intensive practice in listening comprehension, speaking and writing to develop control of the sounds and the basic structure of Italian. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in Italian.

**102 Fundamental Italian (4)**

Prerequisite: Italian 101 or equivalent. Intensive practice in listening comprehension, speaking, reading and writing to develop control of sounds and the

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basic forms and structure of Italian. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in Italian.

### JOURNALISM EDUCATION

(Offered by the Department of Communications)

#### 442 Teaching Journalism in the Secondary School (2)

Prerequisite: Education 311, Education 340, admission to teacher education, or consent of the instructor. The student who has not had teaching experience must register concurrently in Education 449. See page 131 under Secondary Education for description of Standard Teaching Credential program. Theory and technique of advising school newspaper and yearbook staffs and teaching journalism. Relation of classroom instruction to staff assignments.

#### 499 Independent Study (1-3)

Prerequisite: consent of department chairman. Individually supervised projects relating to journalism education.

#### 749 Student Teaching in Journalism in the Secondary School and Seminar (6)

See page 269 for description and prerequisites.

### LATIN

(Offered by the Department of Foreign Languages and Literatures)

#### 101 Fundamental Latin (3)

Intensive practice to develop a comprehensive reading knowledge and a fundamental writing ability in Latin. Modern techniques of language instruction will be applied.

#### 102 Fundamental Latin (3)

Prerequisite: Latin 101 or equivalent. Intensive practice to develop a comprehensive reading knowledge and a fundamental writing ability in Latin. Modern techniques of language instruction will be applied.

#### 203 Intermediate Latin (3)

Prerequisite: Latin 102 or equivalent (2 years of high school Latin). Intensive reading and writing. Selected prose and poetry from the Golden Age. Audiolingual techniques of language learning are used when applicable.

#### 204 Intermediate Latin (3)

Prerequisite: Latin 203 or equivalent (3 years of high school Latin). Intensive reading and writing. Selected prose from the Silver and Middle Ages. Audiolingual techniques of language learning are used when applicable.

#### 499 Independent Study (1-3)

Supervised projects in Latin language and Roman literature. To be taken with consent of the Department Chairman as a means of meeting special curricular problems. Subject matter will vary. May be repeated for credit.

### MATHEMATICS \*

#### 110 Methods and Concepts of Mathematics (3)

Prerequisites: 2½ years of high school mathematics, including one year of algebra and one year of geometry. Selected topics in algebra, number theory, geometry, set theory, probability and analysis with special emphasis on the ideas and methods involved. Not open for credit to mathematics majors.

\* Prerequisites may be waived in any mathematics course by the consent of the instructor.



## 120 Elementary Probability (3)

Prerequisites: three years of high school mathematics or its equivalent. Topics include set algebra, finite probability models, sampling, binomial trials, conditional probability and expectation. It is particularly suited to students of economics, the biological and social sciences.

## 150A,B Analytic Geometry and Calculus (4,4)

Prerequisites: four years of high school mathematics inclusive of trigonometry and a passing score in the placement test. An introduction to analysis including vector algebra, analytic geometry, functions, limits, differentiation, the definite integral, techniques of integration, first order differential equations, applications.

## 250 Intermediate Calculus (4) (Formerly 250A,B)

Prerequisites: Math 150A, B or equivalent. A continuation of Math 150. Topics include functions of several variables, partial differentiation, curvilinear integrals, multiple integration, infinite series, Taylor's theorem, linear differential equations.

## 281 Linear Algebra with Differential Equations (3)

Prerequisite: Math 250. An introduction to linear algebra with particular application to the theory of ordinary differential equations. Topics include: vector functions, vector spaces, linear transformations, systems of linear algebraic and differential equations, matrices, determinants, eigenvectors and eigenvalues, applications to physical systems, series solutions of differential equations. Intended for students in the physical sciences and engineering. (Credit cannot be taken for Math 291 if Math 281 is taken.)

## 291 Linear Algebra (3)

Prerequisite: Math 150B. The study of matrices, determinants, vector spaces, linear transformations. (Credit cannot be taken for Math 281 if Math 291 is taken.)

## 302 Modern Algebra (3)

Prerequisite: Math 291. The integers, rational numbers, real and complex numbers, polynomial domains, introduction to groups, rings, integral domains and fields.

## 304 Mathematical Logic (3)

Prerequisite: Math 150B. An introductory course in the elements of mathematical logic.

## 305 Elements of Set Theory (3)

Prerequisites: Math 250 and 291. Operations on sets; functions; cardinals and ordinals; ordering, well ordering; axiom of choice; transfinite numbers.

## 306 Vector and Tensor Analysis (3)

Prerequisites: Math 250 and either 281 or 291. Analysis of vector fields; Green's, Gauss' and Stokes theorems. Introduction to tensor analysis. Applications to geometry, mechanics and electromagnetism.

## 307 Elementary Differential Geometry (3)

Prerequisites: Math 250 and 291. The differential geometry of curves and surfaces in Euclidean 3-space. Differential forms in 3-space. Cartan's equations of structure. Gauss-Weingarten-Codazzi equations.

## 310 Ordinary Differential Equations (3)

Prerequisites: Math 250 and either 281 or 291. An introduction to existence theorems and the theory of ordinary differential equations.

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### 315 Euclidean Geometry (3)

Prerequisite: Math 250. Selected topics in advanced Euclidean geometry such as convexity, transformation theory and  $n$ -dimensional Euclidean space.

### 320 Projective Geometry (3)

Prerequisite: Math 291. Homogeneous coordinates, projective group, cross-ratio, duality, point and line conics.

### 330 Number Theory (3)

Prerequisite: Math 250 or 291. Divisibility, congruences, prime number theory, Diophantine problems.

### 335 Mathematical Probability (3)

Prerequisite: Math 250. An introductory course in probability theory and its applications, based on use of the calculus.

### 336 Mathematical Statistics (3)

Prerequisite: Math 250. An introductory course in statistical theory and its applications, based on use of the calculus.

### 340 Numerical Analysis (3)

Prerequisites: Math 250 and either 281 or 291. Corequisite: QM 264. Interpolation and approximation. Numerical differentiation and integration. Solution of non-linear equations. Difference equations. Error analysis. Opportunity is given to use the computer center facilities.

### 350A,B Advanced Calculus (3,3)

Prerequisites: Math 250 and either 281 or 291. Designed to introduce the student to rigorous proofs in analysis. Topics include continuity, differentiation and integration of functions of several variables, improper integrals, sequences and infinite series.

### 407 Abstract Algebra (3)

Prerequisite: Math 302. Sets, mappings, groups, rings, modules, fields, homomorphisms, advanced topics in vector spaces and theory of linear transformations, matrices, algebras, ideals, field theory, Galois theory.

### 412 Complex Analysis (3)

Prerequisite: Math 350A. Complex differentiation and integration, Cauchy's theorem and integral formulas, maximum modulus theorem, harmonic functions, Laurent series, analytic continuation, entire and meromorphic functions, conformal transformations and special functions.

### 414 Topology (3)

Prerequisite: Math 350A. An introductory course in point set and algebraic topology.

### 430 Partial Differential Equations (3)

Prerequisite: Math 350B or consent of instructor. Cauchy-Kowalewsky and other existence theorems, theory of first order equations, classification of equations of higher order, detailed study of elliptic, hyperbolic and parabolic equations, applications of functional analysis to partial differential equations.

### 431 Methods of Applied Mathematics (3)

Prerequisite: Math 350A or consent of instructor. Calculus of variation, partial differential equations of physics, Fourier series and orthogonal functions, integral transforms.



**440 Advanced Numerical Analysis (3)**

Prerequisites: Math 340 and 350A or consent of instructor. Numerical solution of linear equations, matrix inversion, computation of eigenvalues and eigenvectors, numerical solution of ordinary and partial differential equations, error analysis.

**450 Real Analysis (3)**

Prerequisite: Math 350B. An introduction to Lebesgue measure and integration and selected topics from the following: metric spaces, compact and perfect sets, Cantor's ternary set, limsup inferior and superior, discontinuities, functions of bounded variation, Riemann-Stieltjes integral, families of continuous functions, equi-continuity, Stone-Weierstrass theorem, convergence of Fourier series, inverse and implicit function theorems, functional dependence.

**499 Independent Study (1)**

Prerequisite: consent of the instructor. Study of some special topic in mathematics, selected in consultation with the instructor and carried out under his supervisions.

**506 Seminar in Number Theory (3)**

Prerequisites: Math 302, 330, 350B or consent of the instructor. Selected topics in analytic and algebraic number theory.

**507 Topics in Abstract Algebra (3)**

Prerequisites: Math 407. Modules, algebras, ideal theory, field theory, Galois theory, categories, functors, homology.

**508 Seminar in Algebra (3)**

Prerequisites: Math 407 or consent of the instructor. Structure theory of rings, algebras, field and Galois theory. Homological algebra. Research topics in algebra. May be repeated for credit.

**512 Complex Analysis (3)**

Prerequisite: Math 412. Special topics in complex analysis including analytic functions of several variables, special functions, conformal mapping and Riemann surfaces.

**514 Topology (3)**

Prerequisite: Math 414. Advanced point set and algebraic topology.

**515 Seminar in Advanced Topology (3)**

Prerequisite: consent of the instructor. Advanced areas in topology in preparation for research work. May be repeated for credit.

**520 Lebesgue Measure and Integration (3)**

Prerequisite: Math 350B. Lebesgue measure and integration on the line and in  $n$ -space. Topics include the dominated convergence theorem, absolute continuity, convergence in measure and in mean, differentiation and Fubini's theorem.

**525 Differential Geometry (3)**

Prerequisite: Math 414. Differentiable manifolds, connections, curvature, torsions, covariant differentiation, topics in Riemannian geometry.

**526 Seminar in Geometry (3)**

Prerequisite: graduate standing. Permission of the instructor. May be repeated for credit.

**530 Topics in Applied Mathematics (3)**

Prerequisite: consent of the instructor. Topics will be selected from mechanics of continua, integral equations, partial differential equations, probability, statistics,

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ordinary differential equations, Riemann surfaces and approximation theory. May be repeated for credit.

### **531 Seminar in Applied Mathematics (3)**

Prerequisite: consent of the instructor. Advanced topics in applied mathematics. May be repeated for credit.

### **550 Topics in Real Analysis (3)**

Prerequisite: Math 450. General theory of measure and integration, set functions, theorems of Radon-Nikodym and Fubini.

### **551 Seminar in Analysis (3)**

Prerequisite: consent of the instructor. A semester graduate course in analysis. Advanced topics in real and complex analysis. May be repeated for credit.

### **560 Functional Analysis (3)**

Prerequisites: Math 291 and 450; corequisite: Math 414. Topics in modern functional analysis including Hilbert and Banach spaces, linear transformations and spectral theory.

### **580 Junior High School Mathematics from an Advanced Standpoint (3)**

Prerequisites: graduate standing plus one year of full-time teaching in junior or senior high school mathematics. The content and methods of mathematics related to the junior high school mathematics curriculum correlated with a seminar on current junior high school mathematics programs.

### **581 High School Geometry from an Advanced Standpoint (4)**

Prerequisites: graduate standing plus one year of full-time teaching in junior or senior high school mathematics. The content and methods of mathematics related to the high school geometry curriculum, correlated with a seminar on current high school geometry programs.

### **582 High School Algebra from an Advanced Standpoint (4)**

Prerequisites: graduate standing plus one year of full-time teaching in junior or senior high school mathematics. The content and methods of mathematics related to the high school algebra curriculum, correlated with a seminar on current high school algebra programs.

### **583 Precalculus High School Mathematics from an Advanced Standpoint (4)**

Prerequisites: graduate standing plus one year of full-time teaching in junior or senior high school mathematics. The content and methods of mathematics related to the high school precalculus curriculum (primarily trigonometry and analytic geometry), correlated with a seminar on current high school precalculus programs.

### **584 Elementary Analysis from an Advanced Standpoint (3)**

Prerequisites: graduate standing plus one year of full-time teaching in high school mathematics. The content and methods of mathematics related to the high school curriculum in analysis, correlated with a seminar on current high school programs in analysis.

### **590 Seminar in Secondary Mathematics (2)**

Prerequisites: graduate standing plus one year of full-time teaching in junior or senior high school mathematics. An analysis of current issues, programs and proposals within secondary mathematics. May be repeated for credit.

### **597 Project (1-3)**

May be repeated for credit.



**599 Independent Graduate Research (1-3)**

Prerequisite: graduate standing. One unit of independent study required of each student for each regular graduate course. Also offered without being attached to any course. May be repeated for credit.

**MATHEMATICS EDUCATION**

(Offered by the Department of Science and Mathematics Education)

**303A,B Fundamental Concepts of Mathematics—Arithmetic (3,3)**

Prerequisites: one year of algebra and one year of geometry. The structure of the real number system and its subsystems. Numeration systems. Elementary number theory. Equations and inequalities. Elementary set theory and logic. Does not give credit toward mathematics major.

**311 Fundamental Concepts of Mathematics—Algebra (3)**

Prerequisite: Math 150B. Selected topics in modern algebra. Axiomatic construction of algebraic structure. Linear systems of equalities and inequalities. Combinatorial analysis. Truth-functional logic.

**312 Fundamental Concepts of Mathematics—Geometry (3)**

Prerequisite: Math 150B. Selected topics in elementary geometry. The study of various axiom systems for Euclidean geometry; non-Euclidean geometry; projective, metric, and affine geometry.

**442 Teaching Mathematics in the Secondary School (2)**

Prerequisites: Education 311, Education 340, Admission to Teacher Education, senior standing, or consent of the instructor. Objectives, methods, and materials for teaching mathematics in secondary schools. Required, before student teaching, of students presenting majors in mathematics for the general secondary credential. The student who has not had teaching experience must register concurrently in Education 449. The requirements for the major must include Math Ed 303A, B, 311, and 312. (1 hour lecture, 2 hours activity)

**480 History of Mathematics (3)**

Prerequisites: Senior standing with a mathematics or mathematics education major. An introduction to the history of elementary mathematics through calculus, by a problem solving approach.

**499 Independent Study (1-3)**

Prerequisite: consent of the instructor. Study of some special topic in mathematics education, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

**749 Student Teaching in Mathematics in the Secondary School and Seminar (6)**

See page 269 for description and prerequisites.

**750 Seminar in Mathematics Education (2)**

Prerequisites: graduate standing and consent of the instructor. Study of selected problems in elementary or secondary education. May be repeated for credit.

**NATURE INTERPRETATION**

(Offered by the Department of Science and Mathematics Education)

**350 Field Biology and Conservation (3)**

(Same as Science Education 350)

## **Oceanography**

### **454 Seminar: Public Contact Procedures (2)**

Prerequisite: public speaking or speech course, and consent of the instructor. A course to develop the methods of positive personal and group contact procedures in nature interpretation and conservation education. Students will have the opportunity to give class presentations and optional public speeches.

### **460 Applied Conservation (4)**

Prerequisites: upper division standing with basic courses in Biology; Geography 350 required of non-science majors. A survey of the history of conservation for application in teaching and nature interpretive professions.

### **470 Field and Museum Interpretation Techniques (3)**

Prerequisites: basic courses in biology and one specialized course. Investigation and implementation of the various techniques used in the field and museum for nature interpretation. Taxidermy, herbarium displays, plastic casting, and diorama construction will be developed. Major stress will be on individual projects.

### **479A,B Supervised Naturalist Activities (3,3)**

Prerequisites: Nature Interpretation 454, 460 and 470, or consent of the instructor. Supervised in-service training working as a naturalist at the Tucker Wildlife Sanctuary and other participating natural areas and interpretive centers.

### **570 Elements of Nature Interpretation (3)**

Prerequisites: B.A. degree and consent of instructor. An interdisciplinary integration of biological, earth science and social science principles relevant to a naturalist training program for teachers and graduate students.

## **OCEANOGRAPHY**

(See departmental course descriptions for the courses listed below)

### **Biological Science**

#### **325 Marine Biology (4)**

#### **420 General Oceanography (3)**

#### **421 Biological Oceanography (4)**

#### **426 Marine Ecology (4)**

#### **520 Seminar in Marine Science (3)**

### **Earth Science**

#### **110 Introduction to Physical Oceanography (3)**

#### **401 Studies in Geoscience, Geofluids (2-6)**

## **PHILOSOPHY**

### **100 Introduction to Philosophy (3)**

An introduction to the nature, methods and some of the main problems of philosophy.

### **110 Comparative Study of the World's Great Religions (3)**

A study of man's religious impulse as viewed from the philosophical standpoint. An attempt will be made to analyze and to compare religious experience as expressed in Christianity, Islam, Buddhism, Hinduism, etc.



**210 Logic (3)**

Analysis of the various forms given to propositions and the basic requirements necessary for valid inference.

**250 Philosophy of Ideas (3)**

Analysis of basic ideas which have shaped modern thought.

**290 History of Philosophy: Greek Philosophy (3)**

The origins of Philosophy in Greece, and its development to the time of Socrates, Plato, and Aristotle.

**291 History of Philosophy: Medieval Philosophy (3)**

Scholastic philosophy and its precursors in ancient thought.

**300 History of Philosophy: Rationalism and Empiricism (3)**

The rationalism of Descartes, Spinoza, and Leibniz, and the empiricism of Locke, Berkeley, and Hume.

**301 History of Philosophy: Kant and the 19th Century (3)**

The empiricistic and rationalistic influences on Kant, followed by a study of the major trends in 19th-century philosophy.

**305 Contemporary Philosophy (3)**

A survey and analysis of the main trends of 20th century philosophy. Emphasis will be placed on such trends as pragmatism, linguistic analysis, and existentialism.

**310 Ethics (3)**

An analysis of the problems of human conduct: motivation, valuing, norms, social demands, and personal commitments.

**311 Aesthetics (3)**

An investigation into the conditions and the aims of art and aesthetic experience.

**323 Contemporary Existentialism (3)**

An analysis of the meaning of existentialism in modern philosophy.

**345 Political Philosophy (3)**

Selected problems in political philosophy.

**347 Selected Problems in Philosophy (3)**

An investigation into the significant contributions made to human culture through philosophic analysis.

**360 Philosophy of History (3)**

A study of the metaphysical and the logical problems of history.

**365 Social Philosophy (3)**

Philosophical (logical) analysis of theories of social organization and rigorous investigation of the various types of social, economic and cultural institutions which make up western society.

**368 Symbolic Logic (3)**

The recognition and construction of correct deductions in the sentential logic and the first-order predicate calculus with identity.

**370 Philosophy of Religion (3)**

An examination of the role of philosophy in shaping theological doctrine, in critically evaluating religious experience, in proving the existence of God, and in considering the issues of atheism and the existence of evil.

## Philosophy

### **375 Introduction to Philosophy of Language (3)**

An introduction to the major issues in semantical theory: truth, meaning, analytic-synthetic, semiotics. (Same as Linguistics 375.)

### **380 Seminar in Analytic Philosophy (3)**

Prerequisite: six units in philosophy or instructor's permission. A detailed investigation of the works of some of the many figures of the 20th century movement in analytic philosophy. The works of Russell, Moore, Wittgenstein, Strawson, Ryle will be read.

### **385 Philosophy of the Behavioral Sciences (3)**

Problem posed by methodological developments in psychology, sociology, anthropology, economics, political science and history. Topics such as objectivity and value judgments in social science, Verstehen, emergence explanation, models and theories will be studied. The concepts of reductionism and functionalism examined. Some acquaintance with the behavioral sciences is presupposed.

### **420 Metaphysics (3)**

Prerequisite: six units in philosophy or instructor's permission. An examination of the philosophical problems of freedom and determinism, mind and body, time and becoming, causation, deity, substratum, personal identity.

### **425 Introduction to Phenomenology (3)**

Prerequisite: six units in philosophy or instructor's permission. An investigation into the historical background and basic viewpoints which have provided a framework for philosophical research and study in the writings of Husserl, Heidegger, Sartre, and Merleau-Ponty.

### **430 Epistemology (3)**

Prerequisite: six units in philosophy or instructor's permission. An investigation of the concepts of knowledge, belief and certainty, and a study of representative theories concerning man's knowledge of the external world, the past, and other minds.

### **435 Philosophy of Science (3)**

Prerequisite: six units in philosophy or instructor's permission. An investigation into the methodologies of the deductive and inductive sciences.

### **440 Philosophy of Mind (3)**

Prerequisite: six units in philosophy or instructor's permission. Basic problems relating to the analysis of the concept of mind and such related issues as behavior, consciousness, and voluntary action.

### **445 Seminar in Value Theory (3)**

Prerequisite: Philosophy 310 or instructor's permission. An investigation into the conditions, modes, levels, and criteria relevant to any systematic view of valuing.

### **450 Seminar in Philosophy of Language (3)**

Prerequisite: six units in philosophy or instructor's permission. A detailed examination of the problems in the theory of meaning and formal semantics.

### **457 Seminar in Ancient Philosophy (3)**

Prerequisite: Philosophy 290 or instructor's permission. A detailed examination of the works of some major Ancient Philosopher, such as Plato or Aristotle, or of some School of Ancient Philosophy, such as Stoicism. This course number may be repeated with different content for additional credit.



**467 Seminar in Continental Rationalism (3)**

Prerequisite: Philosophy 300 or instructor's permission. A detailed examination of the works of some major Rationalist, such as Descartes, Spinoza or Leibniz, or some school or phase of Continental Rationalism. This course number may be repeated with different content for additional credit.

**477 Seminar in British Empiricism (3)**

Prerequisite: Philosophy 300 or instructor's permission. A detailed examination of the works of some major British Empiricist, such as Locke, Berkeley, or Hume, or of some school or phase of British Empiricism. This course number may be repeated with different content for additional credit.

**487 Seminar in Modern Philosophy (3)**

Prerequisite: Philosophy 301 or instructor's permission. A detailed examination of the works of some major Modern Philosopher, such as Kant, Hegel, Nietzsche or J. S. Mill, or of some school or phase of Modern Philosophy to around the end of the 19th century. This course may be repeated with different content for additional credit.

**497 Seminar in Contemporary Philosophy (3)**

Prerequisite: Philosophy 305 or instructor's permission. Emphasis will be placed on the Analytic Movement in Philosophy as it developed during the 20th century. The works in such philosophers as C. I. Lewis, Quine, Goodman, Russell and Wittgenstein will be read. The course may be repeated with different content for additional credit.

**499 Independent Study (1-3)**

Prerequisites: minimum of 12 units in philosophy and approval of the department. Such study is designed to develop greater competency in research. May be repeated for credit.

## PHYSICAL SCIENCE

(Offered by the Departments of Chemistry and Physics)

**100 Man and His Physical Environment (4)**

Prerequisite: one year of high school algebra or equivalent, or permission of the instructor. This course is specifically designed to meet the needs of non-science majors. It emphasizes the historical, philosophical and social aspects of science. It surveys contemporary physical science qualitatively. It seeks to interpret science as an intellectual, human and cultural activity relating it to other areas of human endeavor; contrasting its methods with others; and studying its capabilities, limitations and major accomplishments. It is designed by considering what is relevant to the liberal arts education of non-science majors. Selected theories are considered (classical mechanics, relativity, quantum mechanics, atomic theory, nuclear physics, elementary particles or chemical physics, and astronomy and geophysics) to communicate the essence of the scientific approach to knowledge, as well as some of its major consequences.

**201 Modern Physical Science (4)**

Prerequisite: one year of high school algebra or equivalent, or permission of the instructor. Taught jointly by the departments of chemistry and physics, this course presents the essential unifying features of the basic physical sciences, chemistry, chemistry and physics; the modern concepts of the physical and chemical theory of atomic and molecular structure form the unifying course material. Selected physical and chemical theory (from the fields of mechanics, electricity and magnetism, light, kinetic theory, thermodynamics, quantum theory, and inor-

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ganic and organic chemistry) are included to provide the necessary background material. Credit will not be given to students who have had a college course in chemistry or physics.

### PHYSICS \*

#### 101 Freshman Seminar (1)

This course is offered on a credit-no-credit basis only. The course is open to all interested persons in the academic community including both those in science and those not in science. The course is designed to acquaint the student with the type of work that is presently being done by physicists throughout the world. The seminars consist of approximately 15 seminar talks presented by well-known persons from the field of physics or a closely related field and approximately two field trips to academic or industrial research establishments.

#### 201 Modern Physical Science (4) (See course description under Physical Science 201)

#### 211A,B Elementary Physics (3,3)

Prerequisites: high school algebra,  $1\frac{1}{2}$  years; trigonometry,  $\frac{1}{2}$  year. Elementary physics taught without the use of calculus. Covers principally the fields of mechanics, thermodynamics and electricity and magnetism in the first semester, and principally the fields of waves, relativity, quantum mechanics and the search for the ultimate constituents of matter in the second semester. Concurrent enrollment in 212A,B laboratory required.

#### 212A,B Elementary Physics (1,1)

Laboratory for 211A,B. Concurrent enrollment in 211A,B lecture required. (3 hours laboratory)

#### 221B Fundamental Physics (4)

Prerequisite: Physics 221A. Fundamental classical and modern physics, including physical optics, electricity and magnetism, and an introduction to modern physics. Concurrent enrollment in 222B laboratory required.

#### 222B Fundamental Physics (1)

Laboratory for 221B. Concurrent enrollment in 221B lecture required. (3 hours laboratory)

#### 225A Fundamental Physics: Mechanics (3)

Corequisite: Math 150A. Classical physics, including Newtonian mechanics, linear and circular motion, energy, momentum, systems of particles, rigid body motion and the special theory of relativity. Concurrent enrollment in Physics 226A Laboratory required.

#### 225B Fundamental Physics: Electricity and Magnetism (3)

Prerequisite: Physics 225A or equivalent; corequisite: Math 150B. Electrostatics, electric potential, Poisson's and Laplace's equations, capacitance, dielectrics and boundary value problems, electrical circuits, resistance, emf, magnetism and magnetic materials, and introduction to Maxwell's equations. Concurrent enrollment in Physics 226B Laboratory required.

#### 225C Fundamental Physics: Modern Physics (3)

Prerequisite: Physics 225A or equivalent. Geometrical and physical optics, wave phenomena; the historical development of quantum physics, including the photo-

\* For all courses, prerequisites not requiring consent of the department chairman may be waived by the instructor of the course if he is satisfied that the student is qualified to undertake the course. A grade of C or better is required for all prerequisite courses.



electric effect, line spectra and the Bohr atom; the wave nature of matter; Schrodinger' equation and solutions; the Uncertainty Principle. Concurrent enrollment in Physics 226C Laboratory required.

**225D Fundamental Physics: Thermal and Statistical Physics (3)**

Prerequisite: Physics 225A or equivalent. Temperature, heat, changes of phase, ideal gas laws and the laws of thermodynamics; microscopic models, adiabatic processes and the Maxwell-Boltzman distribution function; transport phenomena, nonstationary state processes.

**226A,B,C Fundamental Physics: Laboratory (1,1,1)**

Laboratory for Physics 225A,B,C. Concurrent enrollment in the corresponding 225A,B,C lecture required. (3 hours laboratory)

NOTE: For Physics 225A,B,C,D and 226A,B,C prerequisites may be waived by consent of the department chairman and/or the instructor.

**300 Introduction to Astronomy (3)**

Prerequisite: high school algebra. Includes celestial motion, a study of the solar system, galactic structure, theories of the origin of the universe and the solar system. (3 hours lecture with occasional field trips replacing a lecture) (Same as Earth Science 300)

**350 General Astronomy (4) (Formerly Astronomy 200)**

(Same as Earth Science 350)

**405 Acoustics (4)**

Course is designed expressly for non-science majors and a major portion of the material covered is oriented toward applications in music and psychology. (2 hours lecture, 1 hour conference and 3 hours laboratory)

**410 Introduction to Mathematical Physics (3) (Formerly 221C)**

Prerequisite: Physics 221B or 225 series sequence. Fundamental physical concepts are presented in a unifying framework. Course is intended to prepare the physics student for upper division physics by placing emphasis on the mathematical physics used in the five major theories of physics—classical mechanics, relativity, electricity and magnetism, quantum physics and statistical mechanics.

**411 Theory of Wave Motion (3)**

Prerequisites: Physics 221B or 225 series sequence, Math 150B. The properties of wave motion—production, propagation, refraction, diffraction, interference, and transmission of waves—as applied to mechanics, electromagnetism and quantum mechanics.

**416 Thermodynamics (3)**

Prerequisites: Physics 221B or 225 series sequence, Math 250. A postulational study of thermodynamics with emphasis on thermodynamic states rather than on thermodynamic processes. An introductory course in the basic concepts and postulates, conditions of equilibrium, formal relationships, processes and thermodynamic engines, stability of thermodynamic systems, first- and second-order phase transitions, the Nernst postulate, and representative applications.

**431 Electricity and Magnetism (3)**

Prerequisites: Physics 221B or 225 series sequence, Math 250. Theories of electrostatics, electrodynamics, and electromagnetic waves.

**441 Analytical Mechanics (3)**

Prerequisites: Physics 221B or 225 series sequence, Math 250. Principles of Newtonian mechanics applied to the statistics and dynamics of particles and rigid bodies. Introduction to Lagrangian and Hamiltonian equations.

## Physics

### 451 Modern Physics (3)

Prerequisites: Physics 221B or 225 series sequence, Math 250. Discussion of experiments and introduction to theory for selected topics in atomic, nuclear, and solid state physics.

### 452 Introductory Radiology (3)

Prerequisite: one year college physics. X-rays, radioactivity, interaction of radiation with matter, detection of radiation, applications to health physics. Especially suitable for biology, chemistry, and premedical students who expect to work in radiation biology, radiation chemistry, or medical radiology.

### 453 Nuclear Physics (3)

Prerequisites: Physics 221B, Math 250. Properties of nuclei, radioactivity, elementary particles, nuclear reactions. Introductory discussion of theories of nuclear structure and nuclear processes.

### 454 Introduction to the Solid State of Matter (3)

Prerequisite: one course in atomic or nuclear physics, differential equations. An introduction to the physical properties of matter in the solid state, as explained by atomic theory. Crystal structure, thermal, electric, and magnetic properties of metals, semiconductors, band theory, and solid state devices.

### 455 Introduction to Quantum Physics (3)

Prerequisites: Physics 431, Physics 441, differential equations. An introduction to the concepts and theory of quantum physics. Early quantum theories, the Schrodinger equation, eigenvalue equations, operators, commutation properties, applications to simple quantum systems, matrix formulation, perturbation theory.

### 471 Electronic Circuit Theory (3)

Prerequisites: Physics 221B, Math 250. Operating characteristics of vacuum tubes, transistors, and semiconductor diodes. Linear circuit theory for alternating currents and for transient currents. Introduction to switching and pulse circuits.

### 476 Atomic Structure (3)

Prerequisite: Physics 455. The theory of atomic structure, interaction of radiation with matter. Angular momentum and coupling schemes.

### 481A Experimental Physics (3)

Prerequisite: Physics 221B; corequisite: Physics 431. Selected experiments in electrical measurements and electronics, with emphasis on precision of measurement and standardization of instruments. (1 hour lecture, 6 hours laboratory)

### 481B Experimental Physics (3)

Prerequisite: Physics 481A; corequisite: Physics 441. Selected experiments in mechanics, acoustics, physical optics, and microwaves. (1 hour lecture, 6 hours laboratory)

### 481C Experimental Physics (3)

Prerequisite or corequisite: one course in nuclear or modern physics. Selected experiments in atomic and nuclear physics. (1 hour lecture, 6 hours laboratory)

### 481D Experimental Physics (3)

Prerequisites: Physics 481A,B,C or consent of department chairman. Selected experiments in classical and modern physics. (1 hour lecture, 6 hours laboratory)

### 490 Senior Seminar (3)

Prerequisite: Consent of the instructor. Topics in recent developments in physics not ordinarily covered in organized courses. May be repeated for credit. Open to upper division and graduate students in physics and related areas.



**499 Independent Study (1-3)**

Prerequisite: approval of study plan by department chairman and by instructor. Study of some selected topic in physics, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit to a maximum of 6 units.

**521A,B Methods of Theoretical Physics (3,3)**

Prerequisite: Math 250A. A study of selected applications of mathematics to physical theory and to engineering. Applications are selected from ordinary and partial differential equations, integral equations, integral transforms, series expansions of functions, calculus of variations, matrix theory, tensor analysis, group theory, complex variable theory, and numerical analysis.

**531A,B Classical Electrodynamics (3,3)**

Prerequisite: mathematics through partial differential equations. **A**—Boundary value problems in electrostatics and magnetostatics; multipole expansions; dielectrics and macroscopic media; Maxwell's equations and conservation laws; wave guides and resonators. **B**—Simple radiating systems; electromagnetic potentials; multipole radiations; classical relativistic electrodynamics; radiation from moving charges.

**533 Analytical Mechanics (3) (Formerly 541)**

Prerequisite: mathematics through partial differential equations. A thorough theoretical treatment of classical mechanics including the important motions of a point, general principles of work and energy, the principle of least action, Lagrange and Hamiltonian equations, the dynamics of rigid bodies, and related topics.

**540A,B Quantum Physics (3,3)**

Prerequisite: mathematics through partial differential equations. **A**—Transformation theory, quantum dynamics, angular momentum, symmetry principles, representation theory, Klein-Gordon equation, approximation techniques; applications to topics such as scattering theory, interaction with radiation, motion in a magnetic field, atomic and nuclear structure. **B**—Lorentz groups, Dirac equation, field quantization, group theory approximation techniques; applications to topics such as systems of identical particles, molecular structure, the many-body problem, and magnetic phenomena.

**545 Nuclear Theory (3)**

Prerequisite: Physics 540A. Internucleon forces; nuclear models; electromagnetic properties of nuclei, nuclear radiation theory.

**562 Statistical Physics (3)**

Prerequisite: Mathematics through partial differential equations. Fundamental concepts of probability and statistics; random walk; equilibrium; transport theory; ensembles; constraints; irreversibility; canonical distributions; classical and quantum statistics. Applications to fields such as temperature, conductivity, radioactivity, thermionic emission, solutions, reactions, fluctuations, random noise and plasmas.

**565 Solid State Physics (3)**

Prerequisite: Physics 562 and 540A. Crystallographic groups; lattice vibrations, magnetic phenomena, energy band theory, with applications to the electrical and optical properties of solids and superconducting media.

**581 Experimental Physics (3)**

Prerequisite: Sufficient undergraduate experimental background. Presents basic, advanced techniques. Proper usage of computers and statistical methods in data

## Political Science

analysis. Selected experiments in various fields of physics will be performed to teach proper data handling techniques.

### **598 Thesis (1-3)**

Prerequisite: Approval of graduate adviser and Physics Graduate Committee. May be repeated for credit up to a maximum of six units of credit.

### **599 Independent Graduate Research (1-3)**

Prerequisite: written approval of study plan by department committee and by instructor. Open only to graduate students and only by permission of a faculty member. May be repeated for credit.

## POLITICAL SCIENCE \*

Political Science 100 or its equivalent is the prerequisite for all upper division political science courses; 300-level courses beginning with 310 may require concurrent enrollment in a research proseminar. See the departmental bulletin for details not provided in the course descriptions below.

### **100 American Government (3)**

Explores people, their politics, and power focusing on contemporary issues, changing political styles and processes, as well as institutions and underlying values contributing to the stability of the American political system. Satisfies the state requirements in U.S. Constitution and California state and local government.

### **300 Contemporary Issues in California Government and Politics (3) (Formerly 311)**

Analysis of contemporary issues in California government and politics, including regional, county, and community subdivisions. Emphasis is on decision-making and the costs of democracy; the crisis in the cities, the flight to the suburbs, and race relations. Comparisons will be made with other states and their subdivisions. This course satisfies the state requirement in California state and local government.

### **310 American Political Behavior (3)**

Stresses American culture, social patterns, behavior as they relate to political interaction. To be taken in conjunction with Political Science 311 when offered by same instructor.

### **311 Research Proseminar in American Political Behavior (3)**

Research concepts and techniques applied to an individual project in American political behavior. Offered only as companion course to Political Science 310.

### **315 American Political Process (3)**

Stresses theoretical and analytic approaches to the study of structures, processes, and institutions in the American political system. To be taken in conjunction with Political Science 316 when offered by same instructor.

### **316 Research Proseminar in American Political Process (3)**

Research concepts and techniques applied to an individual project in American political process. Offered only as companion course to Political Science 315.

### **320 Public Administration and Policy (3)**

Public administration and the roles played by administrators in the formulation and execution of public policy. To be taken in conjunction with Political Science 321 when offered by same instructor.

\* Prerequisites may be waived only with the consent of the instructor.



**321 Research Proseminar in Public Administration and Policy (3)**

Research concepts and techniques applied to an individual project in public administration. Offered only as companion course to Political Science 320.

**330 Comparative Political Analysis (3) (Formerly 231)**

Compares patterns of political behavior and interaction in various political systems. Also analyzes the basis for making such comparisons. To be taken in conjunction with Political Science 331 when offered by same instructor.

**331 Research Proseminar in Comparative Political Analysis (3)**

Research concepts and techniques applied to an individual project in comparative political analysis. Offered only as companion course to Political Science 330.

**335 Comparative Political Change (3)**

A comparative study of sources and patterns of political change. To be taken in conjunction with Political Science 336 when offered by same instructor.

**336 Research Proseminar in Comparative Political Change (3)**

Research concepts and techniques applied to an individual project in comparative political change. Offered only as companion course to Political Science 335.

**340 Political Philosophy (3) (Formerly 341)**

Problems of evidence and validation in political studies. The distinction between empirical statements, value judgments and tautologies. The relationship of fact and value. Systematic approaches to the political philosophies of selected thinkers. To be taken in conjunction with Political Science 341 when offered by same instructor.

**341 Research Proseminar in Political Philosophy (3)**

Research concepts and techniques applied to an individual project in Political Philosophy. Offered only as companion course to Political Science 340.

**345 Political Culture and Political Value (3)**

Political values as they relate to aspects of political culture such as perceptions, attitudes and participation. To be taken in conjunction with Political Science 346 when offered by same instructor.

**346 Research Proseminar in Political Culture and Political Values (3)**

Research concepts and techniques applied to an individual project in political culture and political value. Offered only as companion course to Political Science 345.

**350 International Politics (3) (Formerly 351)**

A study of the diplomatic, political, economic, and cultural relations of states; basic factors of power, sovereignty, nationalism, imperialism, colonialism, the rise to influence of the developing nations, the settlement of disputes. To be taken in conjunction with Political Science 351 when offered by same instructor.

**351 Research Proseminar in International Politics (3)**

Research concepts and techniques applied to an individual project in International Relations. Offered only as a companion course to Political Science 350.

**370 Judicial Process (3) (Formerly 371)**

The nature and function of the Anglo-American legal system and its role in the American political system. To be taken in conjunction with Political Science 371 when offered by same instructor.

## Political Science

### 371 Research Proseminar in Judicial Process (3)

Research concepts and techniques applied to an individual project in judicial process. Offered only as a companion course to Political Science 370.

### 405 Politics of Experience (3)

Prerequisite: consent of instructor. A senior research proseminar stressing the theory and application of simulation models, including decision-making, game theory and group encounter techniques with respect to politics. Individual and group research encounter techniques will be utilized.

### 406 Scope and Theory of Political Science (3)

A senior proseminar in political science. The nature of the discipline: approaches, tools, concepts and theories. Highly recommended for all political science majors planning to do graduate work.

### 410 Political Parties (3) (Formerly 312)

Prerequisite: consent of instructor. The structure and methods by which the political parties operate in the American political system with some comparisons to their structure and operation in other democratic societies.

### 411 Art of Administration (3)

Prerequisite: consent of instructor. An examination of public administration as it is practiced and understood by practitioners of the art. A seminar which features guest lecturers.

### 412 The Art of Politics (3)

Prerequisite: consent of instructor. An examination of politics as it is practiced and understood by practitioners of the art. A seminar which features guest lecturers.

### 413 Pressure Groups and Public Opinion (3) (Formerly 313)

The power and growth of farm, labor, business, and noneconomic pressure groups; interest group activity in Congress; administration and courts; public opinion and propaganda.

### 414 The Legislative Process (3)

The nature of the legislative process in the United States including the organization and procedures of legislative bodies, direct legislation and the relationships of the legislative branch to other branches of government. Legislative systems will be analyzed comparatively.

### 415 Political Behavior (3)

Prerequisite: consent of the instructor. The application of behavioral methodology to the understanding of individual political behavior within various governmental and social situations. The formation of attitudes and opinions, their measurement and relationship to political behavior.

### 416 The American Presidency (3)

A study of the growth of the office and power of the President, of his relationship to his advisers and the executive departments. Congress and the courts, state governments and the public. The role of the President as chief policy-maker and administrator, party and public opinion leader, with particular attention to developments during international and domestic crises.

### 417 Student Protest (3)

Prerequisite: consent of instructor. The dynamics of student protest with major attention given to contemporary activities in the U.S. (Same as Interdisciplinary 452)



**420 Municipal Politics and Administration (3)**

Structure and function of municipal government, with emphasis upon community decision-making and group influence.

**421 Public Finance Administration (3)**

Prerequisite: Political Science 320. The role of finance administration and budgeting in the determination of public policy, and in the administrative planning and management of governmental operations in the United States. Examines the relationship of assessment administration to governmental revenues and expenditures, the principles and practices of cost accounting, treasury management, and capital budgeting.

**422 Public Personnel Administration (3)**

Prerequisite: Political Science 320. The growth and development of the civil service and the merit system; an evaluation of recruitment procedures and examinations; an analysis of such topics as position classification, salary structures, retirement plans, in-service training, employees organizations, and personnel supervision.

**423 Regional Planning and Development (3)**

Prerequisite: consent of instructor. A study of governmental policies, procedures, and agencies involved in the planning and development of regions. The concept of regions, survey of regional problems, and objectives, developmental prospects of regions, emerging views of regional planning, and intra- and inter-regional investment allocation during the development process.

**424 Urban Planning and Development (3)**

Prerequisite: consent of instructor. The origins and development of city planning; the legal bases and fundamental concepts of planning are defined; and the organization and administration of the planning activity are examined. The major elements of the general plan, zoning laws and administration, urban renewal, and capital programming are considered.

**425 Comparative Public Administration (3)**

Prerequisites: Political Science 320 and 330. Strongly recommended for students planning to concentrate in comparative politics. Cross cultural comparison of public administration systems; application of different models of analysis to administrative institutions; bureaucracy; the ecology of public administration in modernized and developing societies; and the role of public administration in nation-building.

**426 Administrative Research and Analysis (3)**

Prerequisite: Political Science 320. Concepts and methods employed in administrative research and analysis, with emphasis on organization and procedure surveys, performance evaluation techniques, administrative data sources and their uses, and report writing.

**427 Metropolitan Politics and Administration (3)**

Prerequisite: consent of instructor. The politics and administration of metropolitan area institutions of government, with emphasis upon their problems and alternative solutions.

**428 Administrative Systems and Procedures (3)**

Prerequisite: Political Science 320. Administrative systems and procedures in contemporary government, with emphasis upon systems planning and design, data processing, work flow, control systems, operations research, cost-benefit analysis and forms design.

## Political Science

### **430 Government and Politics of a Selected Nation-State (3)**

Prerequisite: Political Science 330 or consent of instructor. Analysis of the political institutions and processes of a selected nation-state. May be repeated for credit.

### **431 Government and Politics of Western Europe (3)**

Prerequisite: Political Science 330 or consent of instructor. A comparative analysis of the political culture as well as the structures and functions of the political systems of Western Europe.

### **433 Government and Politics of Eastern Europe (3)**

Prerequisites: Political Science 330 and 430 or 443. A comparative analysis of the political culture as well as the structures and functions of the political systems of Eastern Europe.

### **435 Government and Politics of Africa (3)**

Prerequisites: Political Science 330 and 335 or consent of the instructor. A comparative analysis of the structures and functions of the political systems of developing societies in Africa.

### **436 Government and Politics of South and Southeast Asia (3)**

Prerequisites: Political Science 330 and 335 or consent of the instructor. A comparative analysis of the structures and functions of the political systems of developing societies in South and Southeast Asia.

### **437 Government and Politics of Latin America (3)**

A comparative analysis of the structures and functions of the political systems of developing societies in Latin America.

### **438 Latin American Interest Groups (3)**

Consideration of the role of church, military, business, peasant and bureaucratic groups in Latin American society with particular interest in their impact on the quest for governmental stability and economic development.

### **439 Government and Politics of the Far East (3)**

A comparative analysis of the structures and functions of the political systems in the Far East.

### **440 Political Ideologies and Attitudes (3)**

Content and appeals of contemporary ideologies. Social, economic and psychological bases of political attitudes and preferences.

### **442 Problems of Democratic Political Thought (3)**

Problems relevant to philosophies and theories of democratic political systems, with emphasis on American political thought.

### **443 The Theory and Philosophy of Marxism (3)**

Prerequisite: Political Science 340. An analytical study of Marxist theory and philosophy from its pre-Hegelian roots to the present.

### **450 Conduct of American Foreign Relations (3)**

Formulation and execution of foreign policy. The roles and powers of the President, Senate, and House of Representatives. The functions of the Department of State and Foreign Service, United States Information Agency, Agency for International Development (AID); the role of the Pentagon; public opinion and pressure groups. Separation of powers, checks and balances, and cooperation in the conduct of American foreign policy.



**451 Problems in International Relations (3)**

Prerequisite: Political Science 350. Examination of selected problems in various countries and geographic areas with a definite impact on International Relations, such as nationalism, colonialism, anticolonialism, neutralism, racism, ethnic and linguistic minorities, border disputes, governmental instability, economic poverty, disease, illiteracy and overpopulation.

**452 Foreign Policy of a Selected Country or Group of Countries (3)**

Prerequisite: Political Science 310 or consent of the instructor. Objectives, capabilities, policy-making processes, and implementation of the foreign policies of a particular country or group of countries. Focus may be on United States, Soviet Union, Latin America or other countries or areas. May be repeated for credit.

**461 The United Nations and Other Public International Organizations (3)**

Prerequisite: Political Science 350. Structure and functions of United Nations and various specialized and regional international organizations.

**473 Seminar in Constitutional Law and Governmental Power (3)**

Prerequisites: consent of instructor. Case studies, selected problems in the exercise of governmental authority, especially involving social and economic regulation; federalism; and the relationships among legislative, executive, and judicial branches of government.

**474 Seminar in Constitutional Law and Civil Liberties (3)**

Prerequisite: consent of instructor. Case studies in selected constitutional rights and liberties.

**475 Administrative Law (3)**

Prerequisite: consent of instructor. The study of law as it affects public officials and agencies in their relations with private citizens and the business community. Attention is given to appropriate case materials and regulatory practices.

**476 International Law (3)**

Prerequisite: Political Science 350. The sources and nature of international law; its role in a world of sovereign states; the law of war and peace; the rights and duties of nations in their international relationships. The World Court; purpose, problems, and prospects.

**481 Politics Through Literature (3)**

Uses the novel as a means of explicating political behavior in various nation-states.

**497 Government Internship (3) (Formerly 429)**

Prerequisites: public administration concentration and consent of instructor. Students work 15-20 hours per week as supervised interns in a public agency or related organization. Supervision is provided by the faculty and cooperating agency. In addition to the job experience, interns meet in a weekly three-hour seminar.

**499 Independent Study (1-3)**

Open to advanced students in political science by permission of the department chairman.

*(Prerequisite for each graduate course is explicit consent of instructor.)*

**501 Readings in Political Science (3)**

A seminar surveying the major works in the discipline of political science; strongly recommended for all students seeking an M.A. in Political Science or an M.P.A.

## Political Science

### **506 Seminar in the Scope and Theory of Political Science (3)**

The nature of the discipline, approaches, tools, concepts and theories.

### **511 Seminar in American Politics (3)**

A comprehensive examination of the political process in the United States.

### **515 Seminar in Political Behavior (3)**

An intensive analysis of selected topics in political behavior.

### **521 Seminar in Administrative Theory (3)**

Comprehensive analysis of the historical development and theoretical foundations of public administration.

### **524 Seminar in Environmental Planning (3)**

Specialized study of problems and issues in the physical and human environment of the urban community.

### **526 Seminar in Administrative Behavior (3)**

Concepts, functions and techniques of administrative leadership; group dynamics; decision-making; the organization and the individual.

### **528 Seminar in Public Administration Problems (3)**

Comprehensive analysis of selected problems in the theory and practice of public administration.

### **531 Seminar in Comparative Politics (3)**

A comparative study of political systems.

### **541 Seminar in Political Theory (3)**

A comprehensive examination of ideologies, concepts, methods and trends in political theory.

### **550 Seminar on Foreign Policy Formulation (3)**

A study of various models of the foreign policy-making process. Emphasis will be on the interaction between domestic and international sources for policy formulation.

### **551 Seminar in International Relations (3)**

Study of selected problems in international relations with emphasis on individual research and contributions within the framework of a seminar. May be repeated for credit.

### **571 Seminar in Advanced Studies in Public Law (3)**

An intensive analysis of selected topics in public law.

### **597 Project (3)**

Prerequisite: consent of instructor.

### **598 Thesis (3-6)**

Prerequisite: consent of instructor.

### **599 Independent Graduate Research (1-3)**

Open only by permission of the chairman of the department. May be repeated for credit.



## **PORTUGUESE**

(Offered by the Department of Foreign Languages and Literatures)

### **101 Fundamental Portuguese (4)**

Listening comprehension, speaking, reading comprehension, and writing to develop control of the sounds and the basic forms and structures of Portuguese. Enrollment restricted to students with previous study of a Romance language. Conducted in Portuguese.

### **102 Fundamental Portuguese (4)**

Prerequisite: Portuguese 101 or equivalent. Listening comprehension, speaking, reading comprehension, and writing to develop control of the sounds and the basic forms and structures of Portuguese. Enrollment restricted to students with previous study of a Romance language. Conducted in Portuguese.

### **315 Introduction to Luso-Brazilian Culture and Civilization (3)**

Prerequisites: Portuguese 102 or equivalent, reading knowledge of Portuguese or consent of instructor. Readings and discussions to develop insights into the main currents of Portuguese culture and civilization, their expansion to the New World, and the intellectual and artistic development of Brazil from its discovery to the end of the Second Empire. Conducted in Portuguese.

### **325 Contemporary Brazilian Civilization (3)**

Prerequisite: Portuguese 315 or consent of instructor. Readings and discussion toward developing an understanding of the social and intellectual problems, trends, and contributions to Brazil from the advent of the Republic. Major emphasis on present day Brazil. Conducted in Portuguese.

### **431 Portuguese Literature of the Golden Age (3)**

Prerequisite: Portuguese 315 or consent of instructor. The literature of Portugal's golden age (1500-1700). The major works of the Cancioneiros, Gil Vicente, Luis de Camões and other writers will be examined from the point of view of their artistic structure as well as within the context of Portuguese culture and civilization. Conducted in Portuguese.

### **441 Brazilian Literature (3)**

Prerequisite: Portuguese 315 or consent of instructor. The literature of Brazil from the Colonial period to the present. Conducted in Portuguese.

### **499 Independent Study (1-3)**

Supervised projects in Portuguese language or literature to be taken with the consent of the instructor and the department chairman. May be repeated for credit.

## **PSYCHOLOGY**

### **101 Introductory Psychology (3)**

General introduction to basic concepts and problems in psychology as a behavioral discipline. Emphasis upon the human organism as an adapting system, with attention to genetic origins; normal development and capacities; problem-solving and adjustment to stress.

### **161 Elementary Statistics (3)**

Prerequisites: Psych 101 and Math 120. An introductory course in statistics. Descriptive statistics, hypothesis testing, analysis of variance, correlation.

### **202 Principles of Psychology (3)**

Prerequisite: Psych 101. A course for psychology majors covering selected basic areas of psychology in depth. Special emphasis on the methods of studying physio-

## Psychology

logical factors, adaptive behavior, perception, cognition and motivation. (2 hours lecture, 3 hours laboratory)

### 231 Psychology of Personal Adjustment (3)

Prerequisite: Psych 101. Dynamics of personal adjustment and interpersonal relations. Nature of conflict and frustration; demands of changing social roles; and attitudes, opinions and prejudices as they affect the individual and his relationships to others.

### 302 Experimental Psychology: Learning and Motivation (3)

Prerequisites: Psych 101, 202, 161 or permission of instructor. Selected experimental investigations in human and animal learning, memory, thinking, problem solving, and motivation with appropriate lecture and discussion. (2 hours lecture, 3 hours laboratory)

### 303 Experimental Psychology: Sensation and Perception (3)

Prerequisites: Psych 101; 202; 161 or permission of instructor. Selected experimental investigation with appropriate lecture and discussion. (2 hours lecture, 3 hours laboratory)

### 304 Experimental Psychology: Comparative (3)

Prerequisites: Psych 101; 202; 161 or permission of instructor. Behavioral similarities and differences between species as related to their position on the phylogenetic scale; the relation of changes in activity, motivation, emotionality, complexity, plasticity and adaptiveness of behavior to changes in sensory, motor, endocrine and neural structures as well as genetic and environmental factors. (2 hours lecture, 3 hours laboratory)

### 311 Educational Psychology (3)

Prerequisite: six units in psychology. Application of psychological research and theory to the educative process. Major attention given to the problems of learning, individual differences, child capacities, and behavior.

### 321 Physiological Psychology (3)

Prerequisites: Psych 202 and Bio Sci 101 or equivalent. Survey of relations between behavior and biological processes. Anatomy and physiology of the nervous system, role of neural and humoral agents in perception and complex behavior (emotion, etc.), behavioral effects of brain lesions, the effects of drugs on behavior, psychosomatic disorders and motivation. (2 hours lecture, 3 hours laboratory)

### 331 Psychology of Personality (3)

Prerequisite: Psych 202. Concepts of personality development, structure, and dynamics, with emphasis upon problems, methods, and findings in the study of personality.

### 341 Abnormal Psychology (3)

Prerequisite: Psych 231 or 331. Dynamics, symptoms, causes, treatment, and prevention of neuroses, psychoses, alcohol and drug addiction, psychosomatic illnesses, and character disorders.

### 342 Mental Health (3)

Prerequisite: Psych 101. An analysis of the concepts of mental health with emphasis upon positive factors in the individual, group, and community which are conducive to improving mental health. (Credit not given as part of psychology major.)



**351 Social Psychology (3)**

Prerequisite: six lower division units in psychology. Study of phenomena of social interaction and the nature of group processes and influences. Attention paid to the intrapsychic effects of group influences on the individual's behavior.

**361 Developmental Psychology (3)**

Prerequisite: Psych 101. Concepts and processes involved in the understanding of the psychological development of the person from infancy through adulthood. Attention is given to stages in the development of cognition, emotion, perception, motivation, and to the interaction of these processes.

**391 Industrial Psychology (3)**

Prerequisites: Psych 161 or 202. Study of psychological principles and techniques in industrial and business settings. Includes selection, placement, training, human factors, environmental influences, problems of people at work, and consumer behavior

**408 History of Psychology (3)**

Prerequisite: 12 upper division units in psychology or permission of instructor. Survey of the development of psychology from early times to the present.

**411 Human Learning and Memory (3)**

Prerequisite: Psych 302. Theoretical and experimental analysis of the acquisition, retention, and transfer of verbal and motor responses. Consideration of single vs. multiple memory storage systems and of the role of reward, information, and motivation in human learning.

**412 Psychology of Learning (3)**

Prerequisite: Psych 302 or permission of instructor. Principles of learning according to the major theoretical systems. Critical evaluation of the theories and systems.

**413 Perception (3)**

Prerequisite: Psych 303 or permission of instructor. Psychological problems in perception.

**415 Cognitive Processes (3)**

Prerequisite: Psych 302, 303 or 304. Consideration of theory and research with respect to problem solving, thinking, concept learning, language, decision making and judgment, cognitive structure, cognitive development.

**431 Theories of Personality (3)**

Prerequisite: Psych 331 or permission of instructor. Personality structure, development, and dynamics according to major theories. Research methods as they apply to personality theory.

**451 Experimental Social Psychology (3)**

Prerequisites: Psych 161 or equivalent, 202; and 351. Study in depth of selected phenomena of social interaction and the nature of group processes and influences. Laboratory experience in experimental investigation of attitude formation and change; group processes such as communication, and problem-solving and formation of norms; interpersonal processes of influence and perception. (2 hours lecture, 3 hours laboratory)

**461 Group Psychological Testing (3)**

Prerequisite: Psych 161 or equivalent. Intelligence, aptitude, interest, and personality testing. Theory, construction, evaluation, interpretation, and uses of psychological tests.

## **Psychology**

### **465 Advanced Psychological Statistics (3)**

Prerequisites: Psych 161 and Math 120 or equivalent. Statistical inference.

### **471 Behavior Modification (3)**

Prerequisite: Psych 302. An exposition and evaluation of theories and techniques for modifying behavior including operant conditioning methods. (2 hours lecture, 3 hours laboratory)

### **481 Survey of Clinical Psychology (3)**

Prerequisites: Psych 331, 341, and 461. Development and contemporary aspects of the field. Methods, diagnosis, therapeutic techniques, research, and problems.

### **499 Independent Study (1-3)**

Prerequisites: Senior standing and permission of instructor. Individual library study or experimental investigation under direction of a staff member. May be repeated for credit.

### **500 Advanced General Psychology (3)**

An integration of key concepts in learning, motivation, perception, personality and social psychology.

### **510 Experimental Design (3)**

Prerequisites: Psych 161 and 465. Principles and methods of planning and carrying out systematic investigations on the behavior of complex organisms, interdependence of experimental design and statistical evaluation of results, and the opportunity for practice in formulation of testable hypotheses.

### **511 Seminar in Psychological Measurement (3)**

Logic and methodology of measurement in the areas of intelligence, personality, judgment, and attitudes: problems of test construction and validation. May be repeated for credit.

### **520 Seminar: Experimental Psychology (3)**

Prerequisites: graduate standing; Psych 465 and 500. Study in depth of the data, methods, problems and current developments in sensation-perception; animal learning; human motor and verbal learning; thinking and problem solving; and motivation. May be repeated for credit.

### **521 Seminar: Personality (3)**

Prerequisites: graduate standing; Psych 500. An intensive study of central problems in personality. Intensive study current problems and theories in these areas. May be repeated for credit.

### **523 Seminar: Comparative Psychology (3)**

Prerequisites: graduate standing and permission of instructor. A study in depth of some aspect of animal behavior. Comparisons between species and biological determinants of behavior will be emphasized. May be repeated for credit.

### **531 Individual Mental Testing (3)**

Prerequisite: Psych 461. Study of the major tests of intelligence. Emphasis upon practical experience in administration, scoring, and interpretation of these instruments.

### **551 Seminar: Social Psychology (3)**

Prerequisites: graduate standing and Psych 500, and either Psych 351 or permission of instructor. An intensive study of central problems and major theories in the field of social psychology. May be repeated for credit.



**598 Thesis (3-6)**

Prerequisites: formal admission to candidacy; permission of instructor. The writing of a thesis based on a major study or experiment in psychology.

**599 Independent Graduate Research (1-3)**

Prerequisites: graduate standing and permission of instructor. Individual library study or experimental investigation under direction of a staff member. May be repeated for credit.

**RUSSIAN**

(Offered by the Department of Foreign Languages and Literatures)

**101 Fundamental Russian (5)**

Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of Russian. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in Russian.

**102 Fundamental Russian (5)**

Prerequisite: Russian 101 or equivalent. Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structures of Russian. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in Russian.

**203 Intermediate Russian (3)**

Prerequisite: Russian 102 or equivalent. Intensive practice in speaking, understanding, reading, and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Russian.

**204 Intermediate Russian (3)**

Prerequisite: Russian 203 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Russian.

**213 Intermediate Composition (2)**

Practice in written expression based on cultural and literary materials. May be taken concurrently with Russian 203. Required of all majors and minors at the intermediate level; optional to others. Conducted in Russian.

**214 Intermediate Composition (2)**

Practice in written expression based on cultural and literary materials. May be taken concurrently with Russian 204. Required of all majors and minors at the intermediate level; optional to others. Conducted in Russian.

**303 Readings in Scientific Russian (3)**

Prerequisite: Russian 102 or equivalent. Readings reflecting a broad spectrum of writing in the physical and natural sciences and mathematics. Special attention given to the development of rapid reading for comprehension. Open only to Science and Mathematics majors.

**315 Introduction to Russian Civilization (3)**

Prerequisite: Russian 204 or equivalent. Reading and discussion to develop a view of the Russian tradition (its social, intellectual and literary evolution) while at the same time strengthening facility with the language. Open to lower division students with consent of instructor. Conducted in Russian.

## Science Education

### 317 Advanced Conversation and Composition (3)

Prerequisite: Russian 204 or equivalent. Open to lower division students with the consent of the instructor. Designed to give the student special competence in the control of Russian as an instrument for free oral and written expression. Conducted in Russian.

### 375 Introduction to Literary Forms (3)

Prerequisite: Russian 317 or consent of instructor. An introduction to the principal literary forms, prose fiction, poetry, drama and the essay and to the major concepts of literary techniques and criticism. Close analysis and interpretation of various texts to increase the student's abilities in reading, language, and literary criticism. Conducted in Russian.

### 400 Russian for Advanced Students and Teachers (3)

Prerequisite: Russian 317 or consent of instructor. Intensive review of spoken Russian, while developing the student's powers of self-expression in the spoken and written language. Conducted in Russian.

### 431 Early Russian Literature (3)

Prerequisite: Russian 315 or consent of instructor. Evolution of Russian literature from the medieval ecclesiastic traditions and transition to Baroque and Classicism. French and German influence on the 18th century. Transition to Romanticism and the beginnings of Realism. Conducted in Russian.

### 441 The Works of Tolstoy and Dostoevsky (3)

Prerequisite: Russian 315 or equivalent, or consent of instructor. Major works of Tolstoy and Dostoevsky in their intellectual and historical setting and their impact on Russian and world literature. Conducted in Russian.

### 451 The Golden Age of Russian Literature (3)

Prerequisite: Consent of instructor. A study of major literary works of the first half of the 19th century which exemplify cultural and intellectual movements in Russia. Conducted in Russian.

### 461 Russian Literature from 1917 (3)

Prerequisite: Russian 315 or equivalent, or consent of instructor. Representative works of outstanding modern Russian writers with an emphasis on The Nobel Prize winners (M. Sholokhov and B. Pasternak). Analysis and discussion of their prose and poetry in the light of the social problems of present-day Russia. Conducted in Russian.

### 499 Independent Study (1-3)

Supervised projects in Russian language or literature to be taken with the consent of the instructor and department chairman. May be repeated for credit.

## SCIENCE EDUCATION

(Offered by the Department of Science and Mathematics Education)

### 310 Elementary Experimental Science (3)

Prerequisite: completion of general education natural science requirements or consent of instructor. A laboratory centered course in the physical sciences appropriate for prospective elementary schoolteachers and other youth workers. The course covers primarily through laboratory investigations, selected content areas from the fields of chemistry, physics and earth science that are commonly found in elementary school science programs. The major emphasis is on development of such science skills as observing, classifying, recognizing space-time relations, measur-



ing, inferring, formulating hypotheses, controlling variables and interpreting data. This course does not fulfill general education requirements nor is it appropriate for science majors. (2 hours lecture, 2 hours activity)

**350 Field Biology and Conservation (3)**

Prerequisite: one year of college science or consent of instructor. A course for nonmajors primarily designed for prospective elementary teachers to acquaint them with the plant and animal life of the region. In addition, the relationships between urban, suburban and wildlife regions will be investigated from a biological perspective.

**402 Biological Preparations (2)**

Prerequisite: Upper division standing with a major or minor in biology. An introduction to the problems and practices of preparing materials for teaching and research in biology. May include collection and preparation of whole organism specimens, histological specimens and media for characterization of microorganisms. (Same as Bio Sci 402) (6 hours laboratory)

**434 Elementary School Science—New Curricula (3)**

Prerequisite: Sci Ed 310 (or equivalent) or consent of instructor. The content, philosophy and techniques of the new curricula for elementary science courses are studied. At present the course is designed to prepare teachers for the AAAS process approach to elementary science. (2 hours lecture, 2 hours activity)

**442 Teaching Science in the Secondary School (2)**

Prerequisites: Education 340, Education 311, admission to teacher education, senior standing or consent of the instructor. The student who has not had teaching experience must register concurrently in Education 449. See page 131 under Secondary Education for description of Standard Teaching Credential program. Objectives, methods, and materials including audiovisual instruction for teaching science will be studied. Developing and using lesson plans, discussions, laboratory activities, etc., will be experienced during the course. (1 hour lecture, 2 hours activity)

**443 Secondary Science Education—Biology (3)**

Prerequisite: Sci Ed 442 (or equivalent) or consent of the instructor. Educational practices particular to the teaching of biology are studied. Special emphasis is placed on recent curricular developments in this area. Presently the course is designed to instruct teachers in the theory, content and methodology developed by the Biological Sciences Curriculum Study (BSCS). (2 hours lecture, 2 hours activity)

**444 Secondary Science Education—Chemistry (3)**

Prerequisite: Sci Ed 442 (or equivalent) or consent of the instructor. Similar to Sci Ed 443 with the emphasis on chemistry. Presently the course is oriented around the programs developed by the Chemical Educational Materials Study (CHEMS) and the Chemical Bond Approach (CBA) to teaching chemistry. Needs of participating teachers will determine which program will be emphasized. (2 hours lecture, 2 hours activity)

**446 Secondary Science Education—Earth Science (3)**

Prerequisites: Sci Ed 442 (or equivalent) or consent of the instructor. The content, philosophy, and techniques of teaching earth science on the secondary level are studied. This course is designed to prepare teachers in the theory, content and methodology in the earth science course developed by the Earth Science Curriculum Project (ESCP). (2 hours lecture, 2 hours activity)

**461 Development of Science and Technology (3)**

(Same as Interdisciplinary Center 461)

## **Sociology**

### **470 Evolution of Scientific Ideas (3)**

Prerequisites: Upper division or graduate standing with a major or minor in one of the sciences or consent of the instructor. A study of how some of our currently held scientific concepts have evolved. Emphasis on the essential interrelation of the various scientific disciplines and their relation to contemporary cultural and intellectual influences.

### **499 Independent Study (1-3)**

Study of some special topic in science education, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

### **710 Seminar in Science Education (2)**

Prerequisites: an A.B. degree, teaching credential, or consent of instructor. Designed for postgraduate science students who wish to investigate recent developments in teaching the sciences. New courses and materials for the various subject matter fields will be researched and demonstrated. Areas of concentration will depend on interests and training of the seminar participants. May be repeated for credit.

### **749 Student Teaching in Science in the Secondary School and Seminar (6)**

See page 269 for description and prerequisites.

### **760A,B Earth Science for Secondary School Teachers (3,3)**

Prerequisites: valid secondary school credential or consent of instructor. The course covers the theory, content and methodology of new Earth Science Curriculum Project (ESCP) course for secondary school earth science. The course is designed for practicing teachers of earth science. (2 hours lecture, 2 hours activity)

### **799 Independent Study (1-3)**

Prerequisite: valid teaching credential or consent of instructor. Study of some special topic in science education, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

## **SOCIOLOGY**

### **201 Introduction to Sociology (3)**

A general introduction to the basic concepts of sociology, and the scientific study of human society. Among topics included are social interaction, culture, personality, social processes, population, social class, the community, social institutions, and sociocultural change.

### **202 Social Problems (3)**

Prerequisite: Sociology 201. Study of the extent, causes and consequences of a number of social problems, with emphasis on 20th-century America. Problems are viewed in the context of the changing society.

### **331A Social Research Methods (3)**

Prerequisite: Sociology 201 or consent of the department. Research design and methods of gathering data, especially by interview and questionnaire, are emphasized. Among other topics are the role of theory in research, and sampling methods and problems. In addition, the student will be introduced to the techniques and equipment essential to data processing and analysis.

### **331B Social Research Methods (3)**

Prerequisites: Sociology 201, 331A, or consent of the department. Elementary statistical analysis of social data is emphasized, with some consideration of prob-



lems of measurement and of the writing of research reports. (2 hours lecture, 2 hours activity)

**341 Social Interaction (3)**

Prerequisites: Sociology 201 and three units of psychology. Inquiry into the social and sociopsychological dimensions of group behavior and the socialization of the individual. Social interaction and its impact on the individual and personality formation.

**342 Experimental Social Psychology (3)**

Prerequisite: Sociology 341. The course will focus on the analysis of interpersonal relationships in situational contexts. Among the problems to be considered are determinants of the actor's definitions of the situation, types of interpersonal strategies, i.e., ingratiation, altercasting, etc., the construction and elaboration of "fronts," i.e., representations or misrepresentations of self, empathy, role-taking, and the impartation of motives.

**348 Collective Behavior (3)**

Prerequisite: Sociology 201. Characteristics of crowds, mobs, publics. Analysis of social movements and revolutions, their relation to social unrest and their role in developing and changing social organization.

**361 Population Problems (3)**

Prerequisite: Sociology 201. Population composition, growth and movement. Social factors affecting birth rates, death rates, and migration. Attention is given to the population of the United States and to selected areas of the world.

**371 Urban Sociology (3)**

Prerequisite: Sociology 201. The population and ecology, patterns of growth, institutions, characteristic social interaction, values, and problems of the urban community.

**411 Criminology (3)**

Prerequisite: Sociology 201. The extent, causes and control of criminal behavior. Includes study of the criminal law, causal factors and theories, correctional institutions, probation and parole, and preventive efforts.

**413 Juvenile Delinquency (3)**

Prerequisite: Sociology 201. Juvenile delinquency as a social problem. Sociological study of the causes of delinquent behavior, and programs of control, treatment and prevention.

**425 Comparative Social Change (3)**

Prerequisite: Sociology 201. Comparative analysis of changing community, institutional, technological, and social class patterns in selected societies, with emphasis on differences between "developed" and developing areas.

**430 Social Psychology of Prejudice (3)**

Prerequisites: Sociology 201 or consent of instructor. The social psychology of intergroup prejudice. An analysis of research and theory on the dimensions, causes, consequences and reductions of intergroup prejudice.

**431 Minority Group Relations (3)**

Prerequisite: Sociology 201. Study of racial, national and religious minorities, especially in the United States. Includes study of discrimination, prejudice, different patterns of intergroup adjustment, and attempts to change group status.

## **Sociology**

### **435 Applied Research Techniques (3)**

Prerequisites: Sociology 201 and 331A,B. This course provides the advanced student practical experience with the various techniques involved in social research. Students will have the opportunity to design studies, construct questionnaires, draw samples, collect data and then process and analyze their results.

### **436 Social Stratification (3)**

Prerequisite: Sociology 201. Social class structures and their functions. Different styles of life; determinants of class status; vertical social mobility; change in class systems.

### **451 Sociology of the Family (3)**

Prerequisite: Sociology 201. The family as a social institution. Historical and cross-cultural perspectives; social change affecting marriage and the family; analysis of American courtship and marriage patterns; the psychodynamics of family life.

### **454 Sociology of Aging (3)**

Prerequisite: Sociology 201. Analysis of aging as a social process, with emphasis on sociological theories of aging, problems of adjustment, demographic changes and policy issues.

### **458 Sociology of Religion (3)**

Prerequisite: Sociology 201. Theoretical analysis of religion as a social institution in complex societies. The structure and functioning of religious organizations; roles and role relationships; types of religious organizations and leadership; the relationships of religion to other social institutions; religion and social change.

### **460 Comparative Institutions: Latin America (3)**

Prerequisites: Sociology 201. Comparative study of Latin American institutions (familial, economic, religious, political, military). Analytic emphasis on institutional structures and processes; relationship of institutions to each other and the larger society.

### **463 Political Sociology (3)**

Prerequisite: Sociology 201. Theoretical perspectives; nature of power and authority; social structure and political institutions; elites and decision-making; social influences on political behavior; political movements.

### **465 Law and Society (3)**

Prerequisite: Sociology 201. The law and lawyers in the context of human society. Law as formal social control, variations in legal systems, social change and selected areas of law, the legal profession.

### **470 Sociology of Occupations (3)**

Prerequisite: Sociology 201. Sociological analysis of work roles in technologically advanced societies. Career patterns, occupational recruitment, job mobility, organizational demands. The nature and development of the professions, their ideologies and images.

### **473 Complex Organizations (3)**

Prerequisite: Sociology 201. Sociological analysis of formal organizations (industrial, governmental, welfare, military, medical, educational, correctional, etc.) as systems of social interaction. Includes such topics as blueprinted vs. informal structure, authority, decision-making, role conflicts, communication and morale.

### **477 Social Organization (3)**

Prerequisites: Sociology 201; six upper division sociology units, or consent. Theories of social organization and the structure of various social groups are



analyzed, with a comparative analysis of social structures and systems. The various levels of groups are discussed and interrelated.

**479 Concepts and Fields of Sociology (3)**

Prerequisites: Sociology 201 and nine upper division units in sociology. Analysis of theoretical and methodological problems of major sociological concepts. The use of these concepts in selected fields, and research findings, will be emphasized.

**480 Analysis of Social Philosophy (3)**

Prerequisite: Sociology 201. The analysis of pre-20th century explanations of man's behavior and interpretations of the human condition. Considerable attention is given to the articulation of changing historical conditions and alternative philosophies.

**481 Sociological Theory (3)**

Prerequisite: Sociology 201 and consent of the department. A comprehensive survey of the main schools of sociological thought, both European and American, with emphasis on *systems* of theory, methodology of theorists, cultural change, and social institutions.

**482 Sociology of Knowledge (3)**

The analysis and study of frames of reference and beliefs systems in everyday life, and their relationship to social structure, decision processes, and social change.

**495 Senior Seminar (3)**

Prerequisite: senior classification. Open to sociology majors who have had the upper division coursework in the area of the seminar. Emphasis in the seminar will depend upon the particular specialty and training of the instructor.

**499 Independent Study (1-3)**

Prerequisites: at least 12 hours of sociology and consent of the adviser. Student selects an individual research project, either library or field. There are conferences with the adviser as necessary, and the work culminates in one or more papers. May be repeated for credit.

**501 Seminar: Selected Topics in Societal Structure and Process (3)**

Prerequisite: consent of instructor. Analysis of a specialization within the study of society such as: socialization and personality; deviance; social change; institutional structure and process.

**511 Seminar in Crime and Delinquency (3)**

Prerequisites: either Sociology 411 or 413, or consent of department. Analysis of selected problems in the field of crime and delinquency with major emphasis upon independent investigation into the theoretical and research contributions on the causes, prevention and treatment of criminal and delinquent behavior.

**530 Advanced Statistical Analysis (3)**

Prerequisites: sociology 331A,B or consent of instructor. Techniques most commonly utilized by sociologists but not covered in Sociology 331A,B are studied. The techniques deal primarily with multivariate analysis such as tests of significance, tests for interaction, measures of association, regression analysis and factor analysis.

**531 Advanced Methods and Measurements in Sociology (3)**

Prerequisites: Sociology 331A,B, or their equivalents, or consent of department. A critical analysis of basic problems of social research. Casual inferences, value bias, and measurement, especially the construction of scales.

## Spanish

### 533 Seminar in Intergroup Relations (3)

Prerequisite: Sociology 431 or consent of department. Analysis of relations among ethnic, racial and religious groups throughout the world. Analysis of processes leading to, sustaining, and associated with changes in relations among such groups.

### 536 Seminar in Social Stratification (3)

Prerequisite: Sociology 436 or consent of department. Analysis of stratification in industrial societies. Emphasis on theory and methods, and on international comparisons. Analysis of factors leading to social class, the persistence of class divisions, class conflict and social change, and the effects of class on behavior.

### 541 Seminar in Social Interaction (3)

Prerequisite: Sociology 341 or consent of department. Advanced social-psychological study of social interaction, including sociological factors in personality development and analysis of primary group behavior.

### 573 Seminar in Large Organizations (3)

Prerequisite: Sociology 473 or consent of department. The analysis of large organizations, their structural and operating characteristics and the relationships between the organization and its members.

### 577 Seminar in Social Organization (3)

Prerequisites: Sociology 477 or its equivalent and consent of department. A critical treatment of various theoretical approaches to the analysis of social organization. Specific areas of social organization.

### 581 Analysis of Sociological Theory (3)

Prerequisite: Sociology 481 or equivalent and consent of department. Examination of the basic elements and key problems in constructing a systematic sociological theory. A detailed, comprehensive and critical analysis of selected theoretical works.

### 598 Thesis (3)

Prerequisites: acceptance as a candidate for the M.A. in Sociology, and approval of the topic. Individual research under supervision, reported in a thesis, and defended in an oral examination conducted by a faculty committee. Must be taken 2 semesters for a total of six units.

### 599 Independent Graduate Research (1-3)

Prerequisite: consent of graduate adviser and department. Individual research on either a library or empirical project, with conferences with the adviser as necessary, culminating in one or more papers. May be repeated for credit.

## SPANISH

(Offered by the Department of Foreign Languages and Literatures)

### 101 Fundamental Spanish (5)

Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of Spanish. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in Spanish.

### 102 Fundamental Spanish (5)

Prerequisite: Spanish 101 or equivalent. Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of Spanish. Audiolingual assignments are an integral part of



the course and are to be prepared in the language laboratory. Conducted in Spanish.

**203 Intermediate Spanish (3)**

Prerequisite: Spanish 102 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Spanish.

**204 Intermediate Spanish (3)**

Prerequisite: Spanish 203 or equivalent. Intensive practice in speaking, understanding, reading, and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Spanish.

**213 Intermediate Composition (2)**

Practice in written expression based on cultural and literary materials. May be taken concurrently with Spanish 203. Required of all majors and minors at the intermediate level; optional to others. Conducted in Spanish.

**214 Intermediate Composition (2)**

Practice in written expression based on cultural and literary materials. May be taken concurrently with Spanish 204. Required of all majors and minors at the intermediate level; optional to others. Conducted in Spanish.

**315 Introduction to Spanish Civilization (3)**

Prerequisite: Spanish 204 or equivalent. Readings and discussions in Spanish literature, arts and institutions to develop insights into Spanish culture, while strengthening facility with the language. Open to lower division students with the consent of the instructor. Conducted in Spanish.

**316 Introduction to Spanish-American Civilization (3)**

Prerequisite: Spanish 204 or equivalent. Reading and discussion in Spanish-American literature, arts and institutions to develop insights into Spanish-American literature and culture while strengthening facility with the language. Open to lower division students with the consent of the instructor. Conducted in Spanish.

**317 Advanced Conversation and Composition (3)**

Prerequisite: Spanish 204 or equivalent. Open to lower division students with the consent of the instructor. Designed to give the student special competence in the control of Spanish as an instrument for free oral and written expression. Conducted in Spanish.

**375 Introduction to Literary Forms (3)**

Prerequisite: Spanish 317 or consent of instructor. An introduction to the principal literary forms, prose fiction, poetry, drama and the essay and to the major concepts of the literary techniques and criticism. Close analysis and interpretation of various texts to increase the student's abilities in reading, language, and literary criticism. Conducted in Spanish.

**399 Spanish Phonetics (1)**

Prerequisite: junior standing and consent of instructor. Detailed analysis of students' specific problems in pronunciation followed by intensive work in class and the language laboratory until articulatory proficiency is achieved. May be repeated for credit. Conducted in Spanish.

**400 Spanish for Advanced Students and Teachers (3)**

Prerequisite: Spanish 317 or consent of instructor. Intensive study of spoken Spanish, while developing the student's powers of self-expression in the spoken and written language. Conducted in Spanish.

## Spanish

### 431 The Golden Age (3)

Prerequisite: Spanish 315 or consent of instructor. Major works including Mysticism, the Picaresque and Pastoral Novels, the theater of Lope de Vega and his contemporaries. Conducted in Spanish.

### 440 Spanish-American Literature (3)

Prerequisite: Spanish 316 or consent of instructor. Spanish-American Literature from The Conquest to 1888. Conducted in Spanish.

### 441 Spanish-American Literature (3)

Prerequisite: Spanish 316 or consent of instructor. Spanish-American Literature from *modernismo* to the present. Conducted in Spanish.

### 451 Spanish Literature to the Golden Age (3)

Prerequisite: Spanish 315 or consent of instructor. *Cantar de Mio Cid* and other epic poetry, the early ballads and lyric literature, the prose of Juan Manuel, the Renaissance lyrics of Garcilaso de la Vega, *El libro de buen amor* and *La Celestina*. Conducted in Spanish.

### 461 Spanish Literature Since Neoclassicism (3)

Representative works of the 19th and 20th centuries. Analysis of romanticism, eclecticism, naturalism and realism. Conducted in Spanish.

### 466 Introduction to Spanish Linguistics (3)

The analytical procedures of general linguistics as applied to Spanish, with special attention to structural contrasts between Spanish and English. Emphasis on the application of linguistic analysis to the teaching of modern foreign languages.

### 472 Senior Seminar: Cervantes and the Age of Humanism (3)

Prerequisite: Spanish 431 or consent of instructor. Cervantes' artistic creation and its relation to the culture of the 16th century. Special emphasis on *Don Quixote* and the *Novelas ejemplares*. Conducted in Spanish.

### 475 Senior Seminar: Contemporary Literature of Spain (3)

The Generation of '98 and 20th-century theater, poetry and novel. Conducted in Spanish.

### 499 Independent Study (1-3)

Supervised research projects in Spanish language or literature to be taken with the consent of the instructor and department chairman. May be repeated for credit.

### 500 Graduate Seminar: Advanced Structure and Style (3)

Prerequisite: consent of instructor. Conducted in Spanish.

### 510 Graduate Seminar: Phonology (3)

Prerequisite: Spanish 466 or consent of instructor. Conducted in Spanish.

### 530 Graduate Seminar: Historical Linguistics (3)

Prerequisite: Spanish 466 or consent of instructor. Conducted in Spanish.

### 556 Graduate Seminar: Spanish Poetry (3)

Prerequisite: consent of instructor. Conducted in Spanish.

### 557 Graduate Seminar: Spanish-American Poetry (3)

Prerequisite: consent of instructor. Conducted in Spanish.

### 567 Graduate Seminar: Spanish-American Novel (3)

Prerequisite: consent of instructor. Conducted in Spanish.



**571 Graduate Seminar: Spanish Prose (3)**

Prerequisite: consent of instructor. Conducted in Spanish.

**575 Graduate Seminar: Spanish Drama (3)**

Prerequisite: consent of instructor. Conducted in Spanish.

**576 Graduate Seminar: Major Writers (3)**

Prerequisite: consent of instructor. May be repeated for credit. Conducted in Spanish.

**598 Thesis (3-6)**

Prerequisite: recommendation of student's graduate committee.

**599 Independent Graduate Research (1-3)**

Prerequisites: fluency in Spanish and consent of instructor. Supervised research projects in Spanish language or literature. May be repeated for credit.

**SPEECH COMMUNICATION****100 Introduction to Oral Communication (3)**

Investigation of the role and use of communication in modern society. Emphasis on the issues and occasions which prompt the individual to communicate orally and the ways he may evaluate those issues and prepare discourse so as to participate in meaningful dialogue regarding them. Student presentations required.

**102 Advanced Oral Communication (3)**

Prerequisite: Speech Communication 100 or equivalent. Intensive investigation of the role and use of oral communication in modern society. Issues and occasions which prompt the individual to communicate orally, and advanced methods for analyzing and developing oral discourse. Student presentations required.

**120 Meetings and Organizations (3)**

The structure of organizations and the use of oral communication in meetings: management of and participation in groups, including use of parliamentary procedure and problem-solving techniques. Student presentations required.

**138 Forensics (2)**

Investigation and practice in the background, format, procedures, and evaluation criteria of the various forensic events. Students must participate in at least two intercollegiate tournaments. May be repeated for credit. (More than 6 hours for each unit of credit)

**202 Voice and Diction (3)**

Prerequisite: Speech Communication 100. Lecture: Introductory study of voice and speech sound articulation processes and characteristics from the point of view of the speech sciences. Laboratory: Student works toward development of flexibility in his own voice and articulation patterns.

**211 Introduction to Oral Interpretation (3)**

(Same as Theatre 211)

**230 Contemporary American Speakers (3)**

Prerequisite: Speech Communication 100 or 102. Speeches of prominent figures are examined for motives, ideas, and devices for managing discourse. Content analyzed to discover the extent to which the speeches reinforce or challenge traditional values.

## **Speech Communication**

### **235 Essentials of Argumentation and Debate (3)**

Prerequisite: Speech Communication 100 or 102. Investigation of the forms and skills of debate in our society. Use of evidence and case construction are emphasized. Parliamentary, symposium, and academic debate are considered.

### **300 Introduction to Study of Speech (3)**

Prerequisite: open only to speech communication majors. Designed to orient majors to the field of speech communication. Special emphasis is on understanding and using the body of professional literature in speech communication.

### **301 Speech for Teachers (3)**

Prerequisite: Speech Communication 100 or graduate standing. This course is designed to help teachers to use speech and dramatized activities effectively in the classroom. The normal speech development of children is examined, and consideration is given to the identification and handling of speech, hearing, and listening problems.

### **304 Message Reception and Analysis (3)**

Prerequisite: Speech Communication 100 or 102. Examination of listening as a principal form in oral communication, including theory, self-development, and procedures through which competence in reception, analysis, and evaluation of messages can be improved. Attention is given to language as it affects the interpretation of messages and the relationships among individuals.

### **311 Oral Interpretation (3)**

(Same as Theatre 311)

### **324 Dynamics of Small Group Discussion (3)**

Prerequisite: Speech Communication 100. Study and practice of the principles of group dynamics, interpersonal communication, and the process by which individuals work effectively in the solution of problems, share ideas, and become sensitive to the environment in which they work with others.

### **333 Oral Communications in Business and Industry (3)**

Prerequisite: Speech Communication 100. The nature and scope of internal oral communications in business and industry, with a view toward management's responsibility in overcoming the barriers to effective communication. Particular emphasis is given to the interview, conference, and briefing sessions.

### **334 Persuasive Speaking (3)**

Prerequisite: Speech Communication 102 or equivalent. Investigation of the problems and techniques of a series of speeches directed toward a predetermined goal: emphasis on progressive use of persuasive materials.

### **335 Advanced Argumentation (3)**

Prerequisite: Speech Communication 235. Argument as applied to advocacy; special attention is given to logic and evidence as related to analysis of significant issues.

### **338 Intercollegiate Forensics (2)**

Directed activity in debate and other forensic events. Participation in intercollegiate competition is required for credit. May be repeated for credit. (More than 6 hours for each unit of credit)

### **340 Speech Science (3)**

Prerequisite: Speech Communication 100. Anatomy and physiology of the speech mechanism with emphasis on respiration, phonation, resonance, articulation, and hearing; the physical and acoustical aspects of the speech process.



**341 Introduction to Phonetics (3)**

Prerequisite: Speech Communication 100 or graduate standing. The study of the history and theory of speech sounds including the morphological aspect of linguistics; the use of the International Phonetic Alphabet; the various factors influencing articulation and pronunciation. (Same as Theatre 341, Linguistics 341)

**342 Survey of Problems in Communication (3)**

To acquaint the undergraduate student with the subject matter and vocational opportunities, and principles of speech pathology and audiology. Covered will be the role of school personnel, classes of speech and hearing disorders, incidence, speech development and barriers to the normal acquisition of speech. Observation, lecture, films and demonstrations will be extensively utilized.

**402 Phonetic Analysis of Speech (3)**

Prerequisite: Speech Communication 341. Intermediate level course in phonetics which introduces student to narrow transcriptions, the electromechanical analysis of speech, and laboratory techniques in physiological phonetics. Special selected problems in the anatomy and physiology of speech as related to problems of physiological and acoustic analysis. (Same as Linguistics 402)

**403 Speech and Language Development (3)**

Prerequisite: Speech Communication 100 or graduate standing. Study of linguistic development and the psychological aspects of oral communication. Meets the language and speech development and disorders requirement for specialized preparation to serve as teachers of exceptional children.

**404 General Semantics (3)**

Prerequisite: Speech Communication 100 or graduate standing. An examination of the basic principles underlying the influence of language on human action and interaction.

**420 Communication Theory (3)**

Prerequisites: Speech Communication 324, graduate standing, or consent of the instructor. Examination of theoretical models and systems of the communication process as they relate to various types of institutional and interpersonal communication. Emphasis on means by which the process, including discussion forms and methods, may be analyzed or measured.

**430 Classical Rhetorical Theory (3)**

Prerequisite: six units of upper division public address courses. Examination of contributions of Greek and Roman rhetorical theorists, and 4th century B.C. to 300 A.D., together with investigation of selected practitioners of the art.

**431 European Rhetorical Theory (3)**

Prerequisite: Speech Communication 430. Review of European theorists, Cox to Whately, with special emphasis on the educational implications of each approach and the way in which each related to other academic disciplines.

**432 Contemporary Rhetorical Theory (3)**

Prerequisite: Speech Communication 430. Review of contemporary rhetorical theory with emphasis on the nature of persuasion as an important goal of communication.

**433 British Public Address (3)**

Prerequisite: six units of upper division public address courses. A rhetorical study of the times, issues, proofs, structure, and style of selected speeches on British political, social, and religious topics.

## **Speech Communication**

### **434 American Public Address (3)**

Prerequisite: six units of upper division public address courses. A rhetorical history of the United States from the colonial period to the present. The influence of selected speeches and speakers on the development of American culture.

### **438 Principles of Rhetorical Criticism (3)**

Prerequisite: Speech Communication 430. Principles for describing, interpreting and evaluating speech, developed through analysis of contemporary forensic, deliberative and ceremonial speeches. Consideration of various critical systems. Intensive practice in writing rhetorical criticisms.

### **441 Speech Pathology: Nonorganic Disorders (3)**

Prerequisites: Speech Communication 100 or graduate standing; Speech Communication 341 and 342. Speech pathology with special emphasis on the identification of the most commonly experienced speech problems of a nonorganic nature, such as, articulation, stuttering, voice-delayed development, areas of mental retardation, and emotional problems of children; basic principles of therapy in the clinic and in the classroom; parent conferences and referrals.

### **443 Speech Pathology: Organic Disorders (3)**

Prerequisites: Speech Communication 340, 341, 342. Etiologies, evaluation, and treatment of speech defects of an organic nature (cleft palate, cerebral palsy, aphasia, voice, hearing, dental abnormalities and laryngectomy).

### **451 Diagnostic Methods in Speech and Hearing (3)**

Prerequisite: Speech Communication 342 or concurrent registration in Speech Communication 342 or consent of instructor. Provides the student with information about various diagnostic procedures that can be used by him and in consultation with members of related disciplines: psychologist, pediatrician, otologist, orthodontist, neurologist.

### **452 Therapeutic Procedures in Speech and Hearing (3)**

Prerequisite: Speech Communication 342 or concurrent registration in Speech Communication 342 or consent of instructor. Observation and supervised experience in recommended procedures and use of instructional aids with speech-handicapped children, including the preparation and utilization of speech correction and speech improvement materials. (2 hours lecture, 2 hours activity)

### **458 Clinical Practice (3)**

Prerequisites: Speech Communication 441 or 443 or concurrent registration in one of the courses and approved application for clinical practice. Practice in the correction of speech in children and adults under supervision.

### **463 Audiology (3)**

Prerequisite: consent of instructor. The nature of auditory functioning, physical and psychological. A detailed consideration of the anatomy of the auditory mechanism, pathological changes and medical treatment. A survey of the rehabilitation facilities for the aurally handicapped; e.g. agencies, hearing aids, auditory training, speech reading, language development, etc.

### **464 Audiometry (3)**

Prerequisite: Speech Communication 342. Equipment, principles, methods and procedures used in conducting school and industrial hearing conservation programs. Attention is given to techniques of audiometric testing and the use of audiograms. Care and use of audiometers, both air-conduction and zone-conduction. Partially fulfills the state requirements for public school audiometrist.



### **465 Speech Reading and Auditory Training (3)**

Prerequisite: Speech Communication 341 or consent of instructor. Historical backgrounds of lipreading, methods used in visual reading of speech, and the techniques commonly used in the teaching of speech reading to the aurally handicapped.

### **480 Rhetoric of Racial Dissent (3)**

Prerequisite: sophomore standing. Examination of past and present efforts to voice dissent on racial matters. Selected messages of dissent are studied within the social and intellectual context of the day, with special concern for the strategies chosen to respond to that context and the reaction of society to those strategies.

### **499 Independent Study (1-3)**

Open to advanced students in speech with the consent of the department chairman. May be repeated for credit.

### **500 Seminar in Speech Research (3)**

Prerequisite: graduate standing, Speech Communication 300 or equivalent. Examination of research design and methods used in historical, descriptive and experimental research in speech communication.

### **504 Seminar: General Semantics (3)**

Prerequisite: Speech Communication 404. An in-depth study, analysis, interpretation and criticism of some of the major concepts of general semantics as a theoretical construct of the influence of language on human action and interaction and the relationship of these concepts to other fields of knowledge.

### **511 Graduate Seminar in Interpretation (3)**

(Same as Theatre 511.)

### **520 Seminar in Group Communication (3)**

Prerequisite: Speech Communication 324 and 420. Critical analysis of significant literature and current research regarding intra- and intergroup communication.

### **525 Seminar in Organizational Communication (3)**

Prerequisite: consent of instructor. Critical examination of significant literature and current research regarding communication systems and practices within business and industry.

### **535 Seminar in Advocacy (3)**

Prerequisite: Speech Communication 335. Critical analysis of significant texts and periodic literature relating to argumentation and advocacy discourse.

### **536 Seminar in Rhetorical Theory (3)**

Prerequisite: Speech Communication 430. Intensive analysis of selected rhetorical treatises chosen to represent complementary or contrasting systems of rhetoric.

### **538 Seminar in Rhetorical Criticism (3)**

Prerequisite: Speech Communication 438. Principles for analyzing existing rhetorical critical methodologies. An investigation of the "new criticism." Methods and practice in developing a critical methodology. Intensive analysis of new forms of rhetorical criticism.

### **539 Special Topics in Public Address (3)**

Prerequisite: consent of instructor. A critical analysis or intensive investigation of a topic selected by the students and/or instructor. May be repeated for credit.

## **Speech Communication**

### **540 Seminar in Experimental Phonetics (3)**

Prerequisite: Speech Communication 341 and 402, or 341 and consent of instructor. Study and evaluation of selected major issues and problems in physiological, acoustic, and perceptual phonetics. The Speech Science Laboratory will be made available to students taking this course.

### **543 Seminar: Major Problems in Speech Pathology and Audiology (3)**

Selected problems in speech pathology and audiology approached through an investigation of the literature and clinical research.

### **557 A-I Seminar in Speech Pathology (3)**

Prerequisite: Speech Communication 441 and 443. May be repeated for a total of 16 units, but no individual seminar may be repeated for credit: **A**—cleft palate; **B**—stuttering; **D**—cerebral palsy; **E**—aphasoid child; **F**—voice disorders; **G**—articulation problems; **H**—mentally retarded; **I**—advanced diagnostics.

### **558A,B,C Advanced Clinical Practice (2,2,2)**

Prerequisite: Speech Communication 458 or equivalent. Advanced clinical practice with children and adults, having communication problems encountered in professional setting such as the college clinic, public schools, hospitals, crippled children clinics, etc. Students will work with clients with disorders of voice, deafness, aphasia, dysarthria, stuttering. May be repeated for credit.

### **560A Seminar in Aphasia: Background (3) (Formerly 557C)**

Prerequisite: consent of instructor. The areas studied will be the history of aphasia from 1850-1915 (primarily academic and structural); 1917-1941 (primarily psychological and anatomical); 1941-present (eclectic). The physiology (anatomy and neurology) involved in the communicative processes and classification and theories regarding aphasia.

### **560B Seminar in Aphasia: Diagnosis (3)**

Prerequisite: consent of instructor. Study of the etiology of aphasia, dysarthria, apraxia. Diagnosis of communication problems arising from brain-damage. Guest lecturers in the fields of aphasia, dysarthria, apraxia, stroke research, internal medicine.

### **560C Seminar in Aphasia: Therapy (3)**

Prerequisite: consent of instructor. Eclectic study of the approaches to therapy with brain damaged adults who have sustained a communication deficit. Introduction to the interdisciplinary involvement required to work effectively with the adult in this category. Guest lecturers will include representatives from orthopedics, counseling, rehabilitation, social services, physical therapy, occupational therapy, vocational rehabilitation.

### **563 Seminar in Audiology (3)**

Prerequisite: Speech Communication 463, 464, or consent of instructor. Investigation into a particular area or areas of audiology with selected problems. Emphasis upon research and contributions within the framework of the seminar.

### **597A,B,C Project (2,2,2)**

The conduct and reporting of an approved project.

### **598A,B,C Thesis (2,2,2)**

Prerequisite: Speech Communication 500. The selection, investigation, and written presentation of a selected problem in the field of speech.



**599 Independent Graduate Research (1-3)**

Prerequisites: graduate standing and consent of chairman. Open to graduate students with permission of chairman of department. May be repeated for credit.

**SPEECH EDUCATION**

**442 Teaching Speech in the Secondary School (2)**

Prerequisites: Education 311, Education 340, admission to teacher education, senior standing or consent of the instructor. The student who has not had teaching experience must register concurrently in Education 449. See page 131 under Secondary Education for description of standard teaching credential program. Objectives, methods, and materials for teaching speech in secondary schools. Required, before student teaching, of students presenting majors in speech for the standard teaching credential.

**459 Clinical Practice and Student Teaching in Speech Correction and Lip Reading (4)**

Prerequisites: Education 311 and 24 units in the area of speech and hearing handicapped children in the public schools. Experiences include working in small groups and in individual therapy sessions with speech and hearing handicapped children enrolled in regular school classes, participation in parent counseling conferences and conferences with school personnel including administrators, classroom teachers, and nurses. Planning of curriculum materials to integrate speech and hearing therapy with regular classroom instruction will be stressed. This meets the directed teaching requirements for the credential to teach speech and hearing handicapped in remedial classes.

**749 Student Teaching in Speech in the Secondary School and Seminar (6)**

See page 269 for description and prerequisites.

**SWAHILI**

(Offered by the Department of Foreign Languages and Literatures)

**101 Fundamental Swahili (4)**

Intensive practice in listening comprehension, speaking and writing to master the basic structure of Swahili and the requisite skills for both oral and written communication. Conducted in Swahili.

**102 Fundamental Swahili (4)**

Prerequisite: Swahili 101 or equivalent. Intensive practice in listening comprehension, speaking and writing to master the basic structure of Swahili and the requisite skills for both oral and written communication. Conducted in Swahili.

# DIVISION OF LIBRARY SCIENCE

## LIBRARY SCIENCE

### **400 Introduction to General Bibliographic Research (3)**

A study of the methods of performing literature searches for advanced research problems including bibliographic form and documentation with special emphasis on exploitation of the information in library card catalogs, trade bibliographies, index and abstract journals and other reference literature, and a study of abstracts, annotations, and critical reviewing.

### **500 Principles of Librarianship (3)**

Consideration of libraries in contemporary society. History of libraries, development of objectives of library service, identification and definition of user communities and their needs, survey of professional associations, interrelationships within library organization.

### **501 Library Collection Development (3)**

The principles of a library acquisitions program developed from an examination of methods of bibliographic control. Publishers and publishing and other factors of the book trade and their influence on the development of an efficient order department.

### **502 Organization and Operation of Libraries (3)**

An introduction to administrative theories and principles and their implications and applications to managerial activities in all kinds of libraries.

### **503 Organization of Information for Retrieval (3)**

Theory and principles of classification, indexing, subject headings and cataloging and a survey of systems for storing and retrieving information. (2 hours lecture, 2 hours activity)

### **504 Theories of Readers' Services (3)**

A study of the history, theory, and principles of reference service and information retrieval, of national and trade bibliographical tools, and of specialized reference tools; the identification of requesters' needs, and the analysis of research techniques in special subject areas. (2 hours lecture, 2 hours activity)

### **505 Research in Librarianship (3)**

The scientific method and social sciences research methodology applied to library and information problems, focusing on library research and its accomplishments and evaluations of current research activities.



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FOR 1969-70

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# ADVISORY COUNCILS

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President, Medical Staff  
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St. Jude Hospital  
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Orange County Medical Association  
Bulletin  
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Orange County Health Department  
Santa Ana

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Medical Director  
Orange County Medical Center  
Orange

Guillermo Rios, M.D.  
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Anaheim Memorial Hospital  
Anaheim

Harry Stewart  
Administrator  
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Marshall Stonestreet, M.D.  
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Orange County Medical Association  
and Executive Committee  
Martin Luther Hospital  
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# FACULTY AND ADMINISTRATION 1969-70

(Year in parentheses indicates date of appointment)

- LANGSDORF, WILLIAM B. (1959), President and Professor of History  
B.A., M.A., Occidental College; Ph.D., University of California
- ADAMS, PHILLIP A. (1963), Associate Professor of Biology  
B.S., University of California; M.A., Ph.D., Harvard University
- ADAMS, RAYMOND V. (1960), Professor of Physics  
B.S., Kansas State University; Ph.D., California Institute of Technology
- AHN, SEUNG CHUL (1969), Assistant Professor of Economics  
B.A., Seoul National University; Ph.D., University of California
- ALAMSHAH, WILLIAM H. (1959), Professor of Philosophy  
M.A., Claremont Graduate School; Ph.D., University of Southern California
- †ALEXANDER, JAMES P. (1960), Associate Professor of Communications  
B.A., M.S., University of Southern California; Ed.D., University of California, Los Angeles
- ALEXANDER, JOHN A. (1969), Lecturer in Music  
B.M., Oberlin College; M.M., University of Kentucky
- ALLAN, JOHN S. (1968), Lecturer in Science Education  
B.S., M.S., University of Utah
- ALLEN, HOLLIS P. (1960), Professor of Education *Emeritus*  
B.A., Pomona College; M.A., Ed.D., Stanford University; LL.D., Claremont Graduate School
- ALNE, ARTHUR E. (1969), Medical Officer  
B.A., M.D., University of Oregon
- AMES, DENNIS B. (1960), Professor of Mathematics and Chairman, Mathematics Department  
B.A., M.A., Bishop's University; Ph.D., Yale University
- ANDERSEN, MARTIN P. (1965), Professor of Speech  
B.A., M.A., Ph.D., University of Wisconsin
- ANTONELLI, EDWARD A. (1967), Instructor in English  
B.A., Seattle University; M.A., University of Washington
- ARANA, OSWALDO (1965), Associate Professor of Spanish  
B.A., Texas Christian University; M.A., Ph.D., University of Colorado
- AUSTIN, DON D. (1963), Associate Professor of English  
B.A., M.A., University of Redlands; Ph.D., University of Washington
- BACHMAN, ALFRED M. (1968), Assistant Professor of Mathematics Education  
B.S., Oregon College of Education; M.Ed., M.S., Ph.D., University of Oregon
- BADEN, NANCY T. (1969), Lecturer in Spanish and Portuguese  
B.A., M.A., University of California, Los Angeles
- BAILEY, DAVID T. (1969), Assistant Professor of Chemistry  
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- \*BAILLIE, ALLAN S. (1965), Assistant Professor of Management  
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- BAKER, GEORGE T., III (1968), Assistant Professor of History  
B.A., Duke University; M.A., California State College, Fullerton; Ph.D., Duke University
- BAKKEN, GORDON M. (1969), Assistant Professor of History  
B.S., M.S., Ph.D., University of Wisconsin
- BALDWIN, SIDNEY (1967), Professor of Political Science  
B.A., Wesleyan University; M.P.A., Ph.D., Syracuse University
- BALI, NICOLE L. (1969), Lecturer in French  
Licence et Lettres, Faculte des Lettres et Sciences, Diplome d'etudes superieur
- BANKS, DORIS H. (1967), Librarian IV  
B.S., New York State Teachers College; M.S.L.S., Syracuse University; M.P.A., University of Southern California
- BARISH, NATALIE (1966), Associate Professor of Biology  
A.B., Goucher College; M.A., Indiana University; Ph.D., Ohio State University
- BARRES, STEPHEN J. (1961), Professor of Management and Labor Relations  
B.A., Texas Western College; M.S., Ph.D., Purdue University
- BARRETT, JEAN A. (1963), Associate Professor of Physical Education  
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B.A., M.A., California State College, Long Beach; Ph.D., University of Southern California
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\*On leave 1969-70

†On leave fall 1969



- BECK, JAMES A. (1968), Assistant Professor of Mathematics  
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B.A., M.A., Wayne University; Ph.D., Ohio State University
- BECKER, ERNEST A. (1959), Dean of Students and Professor of Philosophy  
B.A., Amherst College; B.D., Hartford Theological Seminary; M.A., Ed.D., University of Southern California
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A.B., Franklin and Marshall College; M.A., Case Western Reserve University
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- BELL, TONY (1968), Assistant Professor of Sociology  
B.A., M.A., University of California, Santa Barbara
- BELL, WILLIAM E. (1969), Professor of Marketing  
B.A., M.B.A., D.B.A., Michigan State University
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B.S., St. Louis University; Ph.D., University of California
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A.B., San Jose State College; M.A., Stanford University; Ed.D., University of Southern California
- †BENSON, RUSSELL V. (1965), Associate Professor of Mathematics  
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- BERTALOT, ROBERT P. E. (1969), Assistant Professor of French  
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- BIGELOW, RALPH EMERSON (1966), Associate Dean of Students, Director of Admissions and Records; and Associate Professor  
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- BLANCHARD, MILTON C. (1961), Building Coordinator  
B.S., M.Ed., Tufts University
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- BLOOM, BEATRICE ANN (1967), Lecturer in German  
B.A., Oberlin College; M.A., University of Southern California
- BOARINO, GERALD L. (1965), Associate Professor of Spanish  
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- #BRADSHAW, L. JACK (1965), Professor of Biology  
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B.A., Occidental College; M.A., Columbia University; M.L.S., University of California, Los Angeles
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- BREESE, LAUREN W. (1965), Assistant Professor of History  
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- BRIGHT, DONALD B. (1967), Associate Professor of Biology  
A.B., M.S., Ph.D., University of Southern California
- BROCKMANN, LOUIS O. (1963), Professor of Education and Chairman, Pupil Personnel Services Department  
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- BROWN, GERALD G., II (1968), Lecturer in Quantitative Methods  
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- BROWN, MICHAEL E. (1967), Assistant Professor of Political Science  
B.A., California State College, Long Beach
- BRYDEN, JOHN H. (1961), Professor of Chemistry  
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#On leave spring 1970

†On leave fall 1969

## Faculty and Administration

- BUCHMAN, EDWIN O. (1968), Assistant Professor of Mathematics  
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- BUCK, CHARLES W. (1964), Associate Dean of Students and Director of Counseling Center  
B.A., Occidental College; M.A., University of Oregon; Ph.D., Columbia University
- BURKE, MAX W. (1960), Director of Placement Services and Associate Professor  
B.A., University of Iowa; B.D., Colgate-Rochester Divinity School
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Licenciatura, Universidad de los Andes, Bogota
- CAINE, JOHN E. (1968), Associate Professor of Physical Education; and Director of Athletics  
B.S., M.S., University of California, Los Angeles; Ed.D., Colorado State College
- CALHOUN, FENTON E. (1970), Lecturer in Communications  
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- \*CALHOUN, ROLAND L. (1961), Associate Professor of Psychology  
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- CARD, EDWARD T. (1966), Operations Research Analyst  
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- CARPENTER, DWIGHT M. (1969), Associate Professor of Political Science  
B.A., M.A., University of Wichita; Ph.D., University of Illinois
- CARR, EDWIN R. (1960), Professor of Education and Economics, and Chairman, Social Foundations Department  
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- CARTLEDGE, SAMUEL J. (1966), Assistant Professor of French  
A.B., King College; Ph.D., Yale University.
- CAVAN, JAMES A. (1968), Assistant Professor of Theatre  
American Academy of Dramatic Arts
- CAYTON, J. MICHAEL (1968), Assistant Professor of Economics  
B.A., Stanford University
- CHADWICK, CAROLE S. (1967), Assistant Professor of Music  
B.A., University of Delaware; M.A., Columbia University Teachers College
- CHAPMAN, GORDON R. (1968), Lecturer in Economics  
A.B., Stanford University; M.A., University of Oklahoma
- CHARLTON, F. ANDREW (1965), Assistant Professor of Music  
B.M.Ed., Pepperdine College; M.A., California State College, Los Angeles
- CHEN, WILLIAM P. (1960), Librarian V  
B.A., National Wu-Han University, China; M.S. in L.S., M.A., Ph.D., University of Illinois
- CHIANG, GEORGE C. (1967), Associate Professor of Engineering  
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- #CHING, ALVIN K. (1967), Assistant Professor of Art  
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- CHIOU, FLORA Y. C. (1967), Librarian II  
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- CHRISTENSEN, LAWRENCE L. (1966), Assistant Professor of Anthropology  
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- \*COCKERHAM, LOUIS W. (1968), Assistant Professor of Speech  
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- COHN, GEORGE I. (1968), Professor of Engineering  
B.S.E.E., California Institute of Technology; M.S., Ph.D., Illinois Institute of Technology
- COLEMAN, JACK W. (1968), Dean, School of Business Administration and Economics  
B.S., Kansas University; M.B.A., University of Michigan; D.B.A., Indiana University
- COLGAN, FRED R. (1965), Associate Professor of Management  
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\*On leave 1969-70

#On leave spring 1970



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- CONDON, MARY GARDNER (1969), Placement Supervisor  
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B.S. Lehigh University; Ph.D., Pennsylvania State University
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B.A., M.A., University of Michigan; Ph.D., University of Colorado
- COPEL, LYNN M. (1968), Librarian II  
B.S., University of Arizona; M.A., University of Denver
- COPPOLINO, IDA S. (1960), Professor of Education  
B.S., University of Utah; M.A., New York University; Ed.D., University of California, Los Angeles
- CORMAN, EUGENE J. (1966), Assistant Professor of Accounting  
B.Sc., M.B.A., University of Santa Clara, C.P.A.
- COURY, RICHARD P. (1969), Lecturer in Physical Education and Football Coach  
B.S., Notre Dame University
- COX, CHARLES H. (1968), Lecturer in Philosophy  
B.A., M.A., University of California, Santa Barbara
- COX, MIRIAM S. (1967), Associate Professor of English  
B.S., Utah State University; M.S., University of Idaho
- CRONQUIST, JOHN (1967), Assistant Professor of Philosophy  
A.B., Duke University; A.M., Harvard University
- CROWLEY, RONALD J. (1965), Associate Professor of Physics  
B.S., M.A., Ph.D., University of Southern California
- CROY, HAZEL M. (1960), Professor of Education and Chairman, Reading Department  
B.A., M.A., University of Redlands; Ed.D., University of California, Los Angeles
- †CUMMINGS, SHERWOOD P. (1963), Professor of English and Vice Chairman, English  
Department  
B.S., University of Illinois; M.A., Ph.D., University of Wisconsin
- CURRAN, DARRYL J. (1967), Assistant Professor of Art  
B.A., M.A., University of California, Los Angeles
- CURTIS, DWIGHT W., JR. (1965), Associate Professor of Psychology  
B.A., College of the Pacific; M.A., Sacramento State College; Ph.D., University of Oregon
- CUSICK, JAMES W. (1961), Associate Professor of Education and Chairman, Secondary  
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B.S., Montana State College; M.A., Washington State University; Ph.D., University of Minnesota
- DAANE, KENNETH E. (1969), Associate Professor of Finance  
LL.B., Ph.D., University of Colorado
- DAVENPORT, CALVIN A. (1969), Associate Professor of Microbiology  
B.S., Virginia State College; M.S., Ph.D., Michigan State University
- DAVIS, BARBARA E. (1960), Librarian V  
B.S., Carnegie Institute of Technology; B.Mus., University of Wisconsin; M.L.S., Carnegie  
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- DAVIS, F. JAMES (1962), Professor of Sociology  
B.A., Ph.D., State University of Iowa
- DAVIS, M. ROBERT (1969), Lecturer in Marketing  
B.S., University of Idaho; M.B.A., University of California, Los Angeles
- DE FRANCE, DOROTHEA (1967), Lecturer in English  
B.A., M.A., California State College, Los Angeles
- DE GRAAF, LAWRENCE B. (1959), Professor of History  
B.A., Occidental College; M.A., Ph.D., University of California, Los Angeles
- DE MOICA, ERNEST R. (1969), Counselor in the New Educational Horizons Program  
B.A., University of California
- DENNO, RAYMOND E. (1961), Director of Audiovisual Services and Professor of Education  
B.A., University of California, Santa Barbara; M.S., University of Southern California; Ed.D.,  
University of California, Los Angeles
- DERENNE, ROLAND J. (1968), Assistant Professor of Sociology  
B.A., M.A., Marquette University; Ph.D., Vanderbilt University
- DE RIOS, MARLENE DOBKIN (1969), Assistant Professor of Anthropology  
B.A., Queens College; M.A., New York University
- DIEB, RONALD K. (1969), Assistant Professor of Theatre  
B.A., M.A., Texas Christian University; Ph.D., University of Denver
- DIETZ, NAOMI G. (1960), Professor of Art  
B.S., Whitworth College; M.A., Teachers College, Columbia University
- DINERSTEIN, NELSON T. (1968), Assistant Professor of Mathematics  
B.S., M.A., University of Massachusetts; Ph.D., University of Utah
- DITTMAN, ROGER R. (1964), Associate Professor of Physics  
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†On leave fall 1969

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B.S., Wisconsin State College, La Crosse; M.S., Ph.D., University of Wisconsin
- #DOLP, FRANZ (1968), Assistant Professor of Economics  
B.S., Yale University; Ph.D., University of California
- DONDIS, ERNEST H. (1966), Associate Professor of Psychology and Acting Chairman, Psychology Department  
B.A., M.A., California State College, Long Beach; Ph.D., University of California
- †DONOGHUE, MILDRED R. (1962), Associate Professor of Education  
B.A., University of Michigan; M.A., University of Detroit; Ed.D., University of California, Los Angeles
- DORER, FRED H. (1967), Associate Professor of Chemistry  
B.S., California State College, Long Beach; Ph.D., University of Washington
- DUERR, EDWIN (1964), Associate Professor of Theatre  
B.A., University of California; M.A., Cornell University
- EARICK, ARTHUR D. (1960), Professor of Geography  
B.A., Indiana University; M.A., Ph.D., University of Michigan
- EBERSON, PETER D. (1967), Assistant Professor of Psychology  
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- EDMONDSON, BEN C. (1970), Associate Professor of Quantitative Methods  
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- EGBERT, RUSSELL J. (1968), Associate Professor of Mathematics  
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- EHMANN, GERHARD E. (1959), Dean of Educational Services and Summer Session, and Professor of Education  
B.A., Occidental College; M.A., Ed.D., University of California, Los Angeles
- ELENBAAS, JACK D. (1969), Assistant Professor of History  
B.A., Hope College; M.A., Ph.D., Wayne State University
- ELLISON, HUGH M. (1969), Assistant Professor of Music  
B.B.A., B.Mus., M.M.E., North Texas State University
- ELLMORE, R. TERRY (1968), Assistant Professor of Theatre  
B.A., M.A., Washington State University
- EL-SADEN, MUNIR R. (1966), Professor of Engineering  
B.Sc., University of Denver; M.S., Ph.D., University of Michigan
- ENELL, GEORGE O. (1965), Associate Professor of Speech and Director of Relations with Schools  
B.A., Pomona College; B.D., Fuller Theological Seminary; M.A., Ph.D., University of Southern California
- EPSTEIN, CYRIL R. (1965), Assistant Professor of English  
B.A., University of California, Santa Barbara; M.A., Yale University
- ETUE, GEORGE E. (1963), Associate Professor of History  
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- EVANS, DAVID H., JR. (1969), Lecturer in Anthropology  
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- EVJENTH, HENRY A. (1964), Associate Professor of Art  
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- EWING, ROBERT N. (1969), Lecturer in Art  
B.A., University of California, Los Angeles; M.A., Columbia University
- EZELL, MICHAEL J. (1969), Assistant in Chemistry  
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- FARDY, PAUL S. (1967), Assistant Professor of Physical Education  
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- FARMER, MARJORIE M. (1970), Lecturer in Theatre  
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- FARZAN, MASSUD (1969), Associate Professor of English  
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- FASHEH, ISSA I. (1966), Librarian II  
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- FEINGOLD, HELAINE J. (1969), Assistant Professor of Sociology  
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- FELDMAN, DAVID M. (1964), Professor of Linguistics and Director, School of Interdisciplinary Studies  
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- FELDMAN, ROBERT S. (1964), Associate Professor of History  
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#On leave spring 1970

†On leave, fall 1969



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- FINNIE, MICHAEL A. (1969), Assistant Professor in Ethnic Studies Program  
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Special Art, California State College, Long Beach and Los Angeles Valley College
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- FUENTES, DAGOBERTO (1969), Associate Professor in Ethnic Studies Program  
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- FULLER, CYNTHIA (1967), Instructor in English  
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- FULTON, M. WILLIAM (1965), Associate Professor of Physical Education  
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- FUSZEK, RITA M. (1964), Associate Professor of Music  
B.M., Butler University; M.M., Michigan State University
- GARBER, STEPHEN M. (1969), Lecturer in English  
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- GARD, DONALD H. (1969), Professor of Religious Studies  
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- GAUNT, ROBERT J. (1969), Assistant Professor of Mathematics  
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- GEORIS, GASTON (1970), Lecturer in French  
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- GERFEN, RICHARD L. (1967), Assistant Professor of Education  
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- GETHAIGA, WACIRA (1969), Assistant Professor in Ethnic Studies Program  
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- GIACUMAKIS, GEORGE, JR. (1963), Associate Professor of History  
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- GILBERT, RICHARD C. (1963), Professor of Mathematics  
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- GILDE, JOSEPH M. (1965), Associate Professor of English  
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- GILMORE, JAMES L. (1968), Professor of Education  
B.A., Willamette University, M.S., University of Oregon; Ph.D., Stanford University
- GOOD, KAYE M. (1963), Associate Professor of Speech  
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- GOULD, BETTY W. (1965), Associate Professor of Education  
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- GRANELL, LEE E. (1960), Associate Professor of Speech and Chairman, Speech Communication Department  
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\*On leave 1969-70

## Faculty and Administration

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- GRISSOM, MARY ANNE (1969), Lecturer in Speech  
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- GRODY, HARVEY P. (1969), Lecturer in Political Science  
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- GUSTAFSON, GEORGE A. (1968), Assistant Professor of Accounting  
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- HAAKER, ANNABELLE M. (1965), Associate Professor of English  
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- HALL, WILLIAM K., JR. (1967), Assistant Professor of Management  
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- HANAUER, ERIC S. (1966), Associate Professor of Physical Education  
B.S., George Williams College; M.S., University of California, Los Angeles
- HANES, TED L. (1969), Associate Professor of Botany  
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- HANSEN, ARTHUR A. (1966), Assistant Professor of History  
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- HARDY, B. CARMON (1966), Associate Professor of History and Chairman, History Department  
B.A., Washington State University; M.A., Brigham Young University; Ph.D., Wayne State University
- HARLOW, CAROLINE W. (1968), Assistant Professor of Political Science  
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- HARLOW, ROBERT L. (1968), Assistant Professor of Economics  
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- HARRIS, BARBARA ANN (1967), Assistant Professor of Speech  
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- HARTSIG, BARBARA A. (1959), Professor of Education and Chairman, Elementary Education Department  
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\* Resigned 1970

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